

# LEARNING TO EARN

Report of the National Seminar

on

Vocationalization of Education

(December 9-11, 1981)

विद्यया ऽ मृतमश्नुते



एन सी ई आर टी  
NCERT

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्  
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## FOREWORD

As follow-up of the National Policy Resolution of Education adopted by the Parliament in 1968 and its subsequent elaboration and interpretation by several committees, both at the National and State levels, the Vocationalization of Higher Secondary Education was first introduced in the year 1979 in two States and later, during the next 3 years, in 6 States and Union Territories.

The National Council of Educational Research and Training thought it proper to conduct a stock-taking exercise and review the progress, constraints and problems in its wider implementation since the first introduction of vocationalization 5 years ago. The National Seminar of Vocationalization of Education (1981) was conducted in this background. The Seminar aimed at more effective implementation by the remaining States and suitable remedial steps to be adopted by States already under vocationalization.

The present report of the Seminar provides an authentic account of details in regard to vocationalization and a set of well considered recommendations, not just theoretical but based on actual experiences of the States. It is hoped that it will be an useful piece of literature for all those interested in vocationalization of education as a concept and provide valuable guidelines to those interested in its implementation.

I place on record my appreciation for the very serious and untiring efforts in planning and conducting the Seminar put in by Prof. A.K. Mishra, Head, Vocationalization of Education Unit and Convener of the Seminar as well as all his colleagues in that Unit. I am also grateful to all the participants (list given elsewhere) for their contributions in the Seminar.

SHIB K. MITRA  
*Director*

July 1982  
New Delhi

National Council of Educational  
Research and Training



## PREFACE

The implementation of the programme of vocationalization of higher secondary education has entered a very critical phase. Vocationalization was visualized as the most significant feature of the +2 stage of education in the report of the Indian Education Commission and subsequent national documents on the subject. The implementation of this innovative and revolutionary concept in 6 States and 2 Union Territories of India has brought to light an enormous wealth of experiences which must be analyzed critically with an eye on the future needs of human resource development in our country. A number of other States are seriously contemplating to introduce vocational education in schools at this stage of their educational development and are eagerly looking forward to the benefit from the lessons drawn from the experiences of the implementing States for their guidance.

The National Seminar on Vocationalization of Education organized by this Unit at the NCERT from December 9-11, 1981 which was attended by the high level official representatives of 21 States and Union Territories, concerned academics and educational planners and administrators deliberated upon all significant issues and problems of implementation of vocationalization after taking stock of the present position in all the participating States. While Parts I and II of the present report provide the authentic background and the present state of affairs, Part III gives a digest of the issues and problems and the recommendations based on the in-depth analysis undertaken during the Seminar.

It is believed that "Learning to Earn" the Report of the National Seminar on Vocationalization of Education will be received as an useful document by all concerned throughout the country. For this purpose it is proposed to publish the report in the printed form for wider circulation.

I acknowledge with gratitude the contribution of all the participants of this Seminar. I also thankfully acknowledge the patronage, guidance, assistance and co-operation from all concerned which made the Seminar a great success.

January 1982  
New Delhi

ARUN K. MISHRA  
*Professor and Head*  
Vocationalization of Education Unit  
and Convener of the Seminar



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PART I

**Introduction**

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# Introduction

## 1.1 Background

The Vocationalization of Higher Secondary Education in the 10 + 2 pattern of schooling is being experimented with in different States of the country since 1976. The impetus for this was provided by the report of the Education Commission and the NCFRI Document, "Higher Secondary Education and Its Vocationalization". During the years 1976 to 1979 six States and two Union Territories implemented vocationalization of higher secondary education. The path followed by them, though stemming from the same set of national recommendations, varied a great deal in terms of administrative set-up, course identification, selection of institution, curriculum design, teacher selection and training, and various other related aspects of vocationalization.

After first wave of implementation ending in 1979 there has been a slack of about two years in which no new States have introduced vocationalization. With the renewed thrust given by the conference of Education Ministers in 1981 and the priorities of the Sixth Plan it has been noticed that a few more States are seriously contemplating to switch over to 10+2 pattern and to implement vocationalization as its important integral component.

In this perspective it was felt necessary to organise a National Seminar to take stock of the developments, successes and failures, so as to identify the points of strengths and weaknesses for proper remedial course of action. On the basis of past experiences it was also felt that a set of fresh guidelines are needed to help those States which desire to embark upon this new venture. It was for the first time that such a review of work done and sharing of experiences was thought of. The present National Seminar on Vocationalization of Education was organised with the following aims:

- a) to share experiences of implementation of the vocationalization of education programme particularly with a view to identifying the problems that have been encountered.

- b) to develop guidelines and plan of operation for the implementation of the programme , and
- c) to consider ways and means for the training of teachers for vocational courses

The expected outcome was visualized as

- i) conceptual clarity amongst the high level officials of the States for proper and effective implementation of the programme along with an analysis of the difficulties and problems faced by them ;
- ii) an all inclusive document containing comparative account of the progress of work vis-a-vis the stipulated goals in the National Documents the latest position in the implementing States in terms of authentic facts and figures, problems, issues and future plans,
- iii) a set of fresh guidelines/recommendations for the implementing States with considered arguments and reasonings for each recommendation.

## 1.2 The Opening Session

The opening session of the Seminar began with the musical greetings from the school children of Delhi Public School, Mathura Road, New Delhi followed by a welcome address by Prof A K. Mishra, Convener of the Seminar. Prof S.K. Mitra, Director, NCERT gave his opening remarks to guide the participants in course of their deliberations during the next three days of the Seminar.

**1.2.1** In this welcome address Prof. Mishra referred to the background papers which had been mailed to the participants much in advance and suggested that the necessary introduction to the present programme is already contained in these papers. However, he desired to take this opportunity to say a few words about the various dimensions of vocationalization of education which the NCERT is concerned with. He brought to the notice of the participants that vocationalization of education is one of the two priority areas of the Council, the other being Universalization of Elementary Education. This important area is looked after primarily by the Vocationalization of Education Unit, NCERT consisting of a skeleton staff in different vocational areas. The Unit maintains direct bilateral contacts with the States and Union Territories on all aspects relating to vocationalization which range right from the preparatory arrangements for

introduction of the programme to the employment and future prospects for students, although the academic aspects of curriculum, training and orientation happen to be the main concerns. The Unit also functions as a national centre for international contacts and exchanges in this area. In terms of the 'spread' of the academic expertise he mentioned that the members of the Unit are directly concerned with more than 110 vocational courses being taught in different parts of the country. These courses encompass the entire agricultural complex, paramedical complex, technical and engineering complex, commerce and business complex, home science complex and many other miscellaneous types of courses, in a way covering many of the activities which provide the man his livelihood. The complexity of the task is compounded by the range of activities from the entry to exit and the follow-up of the students referred to above.

He also briefly touched upon the objectives behind the present Seminar. He submitted that in course of their work the members of the Unit come in close contact with the State officials either at the national headquarters or in their respective State headquarters. In this context the Unit extends to the States the benefit of the experiences of other States and interacts with them on various aspects related to philosophy, concept and implementation of the programme. But such contacts, at best, are only bilateral, time consuming, more expensive and less useful than what could be achieved by gathering together the officials and concerned academics, educational administrators and planners at a place to share their experiences and thrash out the issues. One of the purposes, of this seminar therefore, is to promote multilateral contacts and bilateral contacts between various States to allow for more intensive interaction and exchange of ideas on issues of mutual concern.

He also brought to the notice of the participants that vocationalization of education is no longer in a phase of theoretical recommendations only. As a nation we have definite experiences over several years in the sphere of school vocational education. We now have several models to learn or choose from. It is high time that we review these experiences and draw out our lessons for the future. He asserted that in experimenting with a concept in a complex society like ours, like the present one on vocationalization of education, we try and succeed or fail. We try again and the process continues since there is no other clear cut alternative to this strategy. There are lessons to be drawn from the failures and obstructions that we encounter and it is very important that we maintain authentic documentation of our efforts from time to time for the proper guidance of the posterity.

Another important purpose of this Seminar, he stated, was to seek guidance from the experts gathered at this national forum for the functioning of the NCERT in this area so that the Council could discharge its duties more effectively to meet the educational needs of the desired skilled manpower for national development.

He underscored the fact that all the objectives stated above are based on the acceptance of the premise that there is no alternative to vocationalization of education for national development and that there is no going back on this front. What was needed was to develop commitment and dedication as demanded by the gigantic task ahead.

**1.2.2** Prof. S. K. Mitra, Director, NCERT in his opening remarks stated that for the first time an exercise in stock-taking about the implementation of vocationalization of education has been undertaken by NCERT through this seminar. He traced the course of history, briefly touching upon the developments relating to the emergence of the two National Documents. He pointed out that although 10+2 pattern of Education was accepted in principle long ago, it is a matter of fact that some States have not yet switched over to this structural pattern. Even in those States where the 10+2 pattern has been introduced there is a great deal of variation which is true also for the vocational spectrum of studies. As such there are disparities in the recommendations and the actual implementation. Such a disparity in itself may not have any harmful effect as long as the basic objectives are fulfilled.

He referred to the basic presumption of the Kothari Commission, popularly known as I P D formula, through which education productivity and development are linked with each other. In this regard he also referred to Learning to Do, the report of Zaidi-Shah Committee, in which the final set of recommendations for the higher secondary stage of education are contained. He pointed out that one gets the impression that not much has happened since the publication of Learning to Do. While everybody emphasises the significance of vocationalization, some see in it the panacea for all the ills of the society. While this idea raises the hope of people beyond the realistic level there is another segment amongst the administrators and planners who often ridicule the idea. This often has a detrimental effect on the progress of vocationalization in the country.

Referring to the linkages between the school and the community, between the world of work and education, he highlighted that such linkages can be established through Socially Useful Productive Work upto the secondary stage and vocationalization of education at the higher secondary stage. He called upon the participants to evolve an

operational strategy to achieve this goal of linking education to work. The Seminar has to suggest in this regard the next step forward rather than any backward step since no such step is possible or warranted by the situation. Our education is still under the shadow of the *Smriti* and *Shruti* which forces it to remain bookish in character. We are often criticised for being *Brahmanistic* in our approach to education. While other countries have been able to link education with the world of work, we seem to lack behind. He referred to the objectives of the Sixth Five Year Plan in which education has been viewed as an investment in future.

As for the immediate needs he emphasised that the question of delinking the jobs from degrees for various types of employment has to be taken up seriously. Provision has to be made for actual work situation on production sites such as factories and farms and business institutions. The question of providing jobs to the vocationally educated should also receive high priority. An agency must be created for providing necessary guidance, assistance and the facilities for self-employment for the vocational students. He exemplified the diversity of the manpower needs by suggesting that the health department needs a number of personnel other than MBBS or degree holders and similar is the need in many other vocational areas. He also suggested that every State should create its own machinery for proper evaluation and monitoring of the vocationalization programmes. He ended his remarks by expressing his good wishes for the deliberations in the Seminar and stating his expectation to receive a report inclusive of the considered view points on various issues, implementation strategies and related matters. To the outcome of the Seminar he attached a great deal of significance for showing a more realistic path for the implementation of vocationalization of education in the country.

### 1.3 Working of the Seminar

Besides the opening and the closing sessions the proceedings of the Seminar were conducted in 5 plenary sessions which corresponded to the major areas concerned with the issues and problems as listed in the agenda papers. The following is a brief session-wise account of the proceedings.

**1.3.1 Session—I** To start the session, on behalf of the Seminar, Prof. A. K. Mishra, Head, Vocationalization of Education Unit, NCERT requested Dr. (Mrs.) Rajammal P. Devadas, Director, Sri Avinashalingam Home Science College, Coimbatore to act as the Chairman for the first

session and requested Shri K L. Narasimhan, Joint Secretary, Board of Intermediate Education, Andhra Pradesh and Shri C K Misra, Reader, VEU to act as rapporteurs

After the following modifications the provisional agenda was adopted (Annex. II).

- 1 The first session on each day will commence at 10 30 AM instead of 10 AM and the lunch break will commence at 1 30 PM instead of 1.00 PM
2. The question of the consideration of 'bridge' and, 'linkages' should be taken up with item No. 8 of the agenda.

The Chairman called upon the representatives of various State Government to present reports about action taken in regard to implementation of plan of action of vocationalization of education for their States. Each presentation was followed by questions, clarifications and discussions.

**1.3.2. Session—II** The proceedings were conducted with Dr P. D Shukla, former Joint Educational Adviser, Ministry Education as the Chairman and Shri M S Tyagi, Principal, Government Higher Secondary School, Bomdila, Arunachal Pradesh and Dr A.K Sacheti, Reader, VEU, NCERT as the rapporteurs. The session concentrated upon the various administrative issues and the issues relating to the district vocational surveys. Various matters relating to administration and vocational surveys were discussed in depth and recommendations were drawn up on the basis of actual experiences of the States keeping in view their feasibility.

**1.3.3. Session—III.** The proceedings of this session on teachers, selection and training as well as the curriculum design and instructional materials were conducted with Dr. P. D. Shukla as Chairman and Dr. G. N. Lalukdar, Deputy Director of Public Instruction, Assam and Dr. M. Sen Gupta, Lecturer, VEU, NCERT as rapporteurs. Broader issues concerned with the appointment of teachers, their salary scales and the training components, both pre-service and in-service, were deliberated upon along with the curriculum design and the problems associated with development of instructional materials culminating into the framing of recommendations.



**134 Session—IV.** Under the Chairmanship of Shri P K. Laheri, IAS, Director of Education, Gujarat, and Shri Saifuddin Soz, Secretary, Board of School Education, J&K and Dr P Raizada, Reader, VEV functioning as the rapporteurs This session concentrated on a variety of issues concerned with implementation with particular reference to the expansion of scheme in rural areas and reaching the population so far unreached such as rural youth and girls It also deliberated upon the role of NCERT as a national institution for monitoring of the scheme and for providing over all guidance and direction to different States The future of students in terms of employment, apprenticeship, and vertical mobility were also discussed in detail

**135 Session—V :** This session under the chairmanship of Prof H K. Mishra, Officer on Special Duty for Higher Secondary Education, Orissa and Shri D. P Pimpalkhute, Deputy Secretary, Maharashtra and Shri A P. Verma, Reader, VEU as the rapporteurs reviewed all the recommendations made in the preceding sessions and brought them into a final form.

**136 Closing Session :** In the closing session of the Seminar the invited guests and the participants were informed about the proceedings in a summary form by Prof Mishra, Convener of the Seminar.

Prof (Mrs ) Devadas, Dr. P D Shukla, Prof Mishra, (Orissa) and Mr. Vaidyaraman, Ministry of Labour gave their concluding observations. All the speakers expressed an overall praise for the manner in which the proceedings of the Seminar were conducted and the tremendous utility that they visualized for the report based on these deliberations. The Seminar co cluded with the vote of thanks by Prof A K. Mishra.



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PART II

**The Present Position Of  
Vocationalization Of  
Higher Secondary Education**

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# Vocationalization : The Plan And Its Implementation\*

## 1 Introduction

1.1 The two-years higher secondary stage of education is important because it marks the terminal stage for formal schooling for half of those students who join it. On absolute scale the number may now be close to a million each year. It is also important because it provides the bridge between the general education of the secondary stage and higher education in colleges or other professional or technical institutions.

Vocationalization of Education at this stage is perhaps the most important element in the 10+2 pattern. *Diversification* is the key word, the aim being to channelize a considerable segment of student population into programmes of education in much wider fields in conformity with their interests, aptitudes and abilities. In the absence of such a diversification leading to a meaningful and productive terminality of formal schooling, the country may have no other choice than to go for the more expensive and often unproductive higher education on a much larger scale in order to cope up with the consequences of universalization of elementary education as the national goal. Vocationalization of higher secondary education is also a national imperative for the effective correction in the supply system of manpower to keep pace with the planned developmental activities.

1.2 The history of vocationalization of education in India dates back to 1854 when Wood's Dispatch highlighted occupational education for a large segment of student population. Since then there were a number of other recommendations of committees and commissions on the same issue.

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\* Adopted from the background papers submitted to the Seminar

In independent India the Radha Krishnan Commission (1948) emphasised the need for vocational education, "to meet a variety of needs of our young men and women giving a vocational bias to their courses by retaining at the same time their value in assistance of general education as preparation for university courses". The Mudaliar Commission (1952) emphasised the terminal nature of the post-secondary stage in contrast to the college preparatory nature of the preceding Commission. It was stated that at the end of this stage a student should be in a position, if he wishes, to enter into life and take-up some vocations. A chain of multipurpose school was established in response to these recommendations throughout the country. The Education Commission (1964-66) recommended complete transformation of the educational system in the country. The Commission was concerned about the uncontrolled expansion of the college level education which resulted into a vast sea of manpower with limited employability. The higher secondary stage was visualized as consisting of two streams—academic and vocational. The vocational courses were proposed to be terminal in nature and a target of diversion of 50% of the students to this stream was suggested during the next 20 years. The National Policy of Education Resolution (1968) accepted the recommendations of the Education Commission. It particularly suggested the vocational courses to be "effectively terminal" and sufficiently diversified to cover a large number of vocations. Endorsing the Policy Resolution, the Central Advisory Board of Education entrusted the task of preparing curricula for such courses to the NCERT and asked the NCERT to help State Governments in implementing vocational education.

**1.3** The NCERT prepared a guiding document under the title of "Higher Secondary Education and Its Vocationalization" which was discussed in a National Conference of eminent educationists and officials of the State Governments and finally published in 1976. The document asserts that "Vocationalization is a major transformation in education and cannot be achieved without important structural and functional changes in the whole set up". Recommendations in the document concerned many vital issues such as flexibility in the courses, nature of courses, admission and streaming, choice of vocations, time allocation, teacher orientation etc. The Union Minister of Education in his capacity as the President, NCERT appointed a National Review Committee popularly known as Adreshbhai Committee to review the above NCERT document. The National Review Committee functioned under the following

terms of reference :

- “To review the NCERT’s document, “Higher Secondary Education and its Vocationalization” and to suggest modifications therein, if any.
- To study the syllabi and courses of the CBSE and a few State Boards with special reference to a few selected vocations and to recommend appropriate syllabi
- To recommend a plan of action for introduction of vocationalization at the secondary/higher secondary stage”

The National Review Committee touched upon nearly all the recommendations of the preceding document and gave detailed concrete recommendations for introduction of vocational courses at the higher secondary stage. Its report was published as “Learning to Do” ( 1978 ) which was supposed to contain the final set of recommendations for the guidance of the States going to implement vocationalization of education. The States which had already launched the vocationalization scheme were requested to review their programmes and pattern in the background of the report and the National Review Committee.

The Working Group on Vocationalization of Education constituted by the Ministry of Education Govt of India worked independently of the National Review Committee. The ‘Report’ was finalized in November, 1977. It presented details in regard to the scheme of implementation and financial implications while giving its own set of recommendations which closely reassembled those of the “Learning to Do”, and its predecessor NCERT document.

1.4 A special session of Conference of Boards of Secondary Education in India was held at Vigyan Bhavan in September, 1978 at the instance of Ministry of Education and Social Welfare. This was a joint session of Chairman/Secretary of the Boards and Directors of Education of the States/UTs. The Conference recommended “that State Boards should review their courses in the light of the course patterns and other suggestions made in these reports (referring to Learning to Do and Working Group Report on Vocationalization of Education) to suit the needs of community”. The CBSE announced its decision to implement the recommendat-

ions of the Adiseshiah Committee beginning the academic session 1979-80. Andhra Pradesh indicated that the decision to implement vocationalization has taken into account the recommendations of Learning to Do. Maharashtra Board had examined Adiseshiah Committee's recommendations and expressed the intention to take certain steps. Nagaland Government stated that it accepted Review Committee Report in principle and indicated the possibility of certain minor modifications while implementing. The Board of Secondary Education, Orissa accepted Chapter II of Learning to Do *in toto* and agreed broadly with Learning to Do in regard to the course pattern and other features.

The state of implementation of vocationalization till the end of 1979 is critically reviewed in "Vocationalization of Post-secondary Education—A Critical Study of its Implementation in India", recently published by NCERT. The account that follows gives the recommendations of the Learning to Do in various areas of concern in vocationalization of education and the existing position in States and the national level in relation to these recommendations. The objective is to compare the guidelines with the existing realities without establishing a causality, of the latter with the former. The main concern is the future of vocationalization in India. The present attempt aims at helping in the attainment of the goals.

## **2 Administration**

### **2.1 National Level**

2.1.1 "Learning to Do" endorsed the recommendations of the Central Advisory Board of Education and the view-point in NCERT's document on Higher Secondary Education to establish the National Council of Vocational Education and referred to the fact that Ministry of Education had agreed to set it up. It "recommended that the Central Government may now take the necessary steps to implement this recommendation". The NCVE was visualized as an APEX body with the membership of all other Councils such as ICAR, AICTE, Nursing Council, Dental Council, NCTVT etc. The functions of this Council were to bring about some degree of co-ordination and co-operation at the national level of the efforts of various agencies working in the areas of vocational and technical education.

At the State level State Councils of Vocational Education were



recommended to perform similar functions under the guidance of the National Council. It may be worthwhile to mention that the NCERT's document on Higher Secondary Education had also recommended establishment of State Councils, and in addition, District Level Committees for proper co-ordination and co-operation.

Subsequent development failed to favour the idea of NCVE as an apex body and inter-ministerial meeting (1979) endorsed the idea of establishing an All India Board of Vocational Education under the aegis of AICTE. This decision was also endorsed by the meeting of the Secretaries of States concerned with technical education and finally the AICTE in its 25th meeting in April, 1981 decided to set up this Board. The efforts are now underway to constitute the Board and formulate its constitution with the aim of making it functional.

With this decision the original proposal of constituting NCVE as an apex body with the functions originally visualized by AICTE, endorsed by CABE, further reinforced by the "Learning to Do" and the Working Group report of the Ministry of Education has been brought to a conclusion. On the proposed Board depends the future of vocational education in India to a great extent.

**2.1.2.** The national recommendation did not provide for any administrative role for the NCERT. Yet NCERT has been playing a vital role in the implementation of the scheme. Ensuring the proper implementation has been an important concern. State-wise On-the spot Critical Studies have been conducted and observations communicated to the concerned States. Assistance in vocational survey, curriculum framing, orientation of various functionaries, teacher training etc. have been some of the activities of the NCERT. To sum up NCERT has been discharging a catalytic, advisory, co-ordinating and clearing house functions as the national custodian of vocationalization of education.

## **2.2 State level**

The States have also been neutral to the question of State Council of Vocational Education. Only Karnataka has established SCVE with a limited role visualized for it. The national recommendations remain silent about the question of Directorate to implement the programme and the Boards to conduct the examinations. As such, the States have followed

their own independent paths. Karnataka established a Directorate of Vocational Education, and has appointed Deputy Directors of Vocational Education. The diploma is awarded by the State Council. In Gujarat and Tamil Nadu the scheme is in the hands of Directorate of School Education. Tamil Nadu has set-up a high power vocationalization committee with advisory functions at the state level. In Delhi the Education Directorate and the CBSE are two concerned agencies for implementation and examination, respectively. In Andhra the junior colleges in which the courses are offered are under the Directorate of Higher Education which are affiliated to the Board of Intermediate Education. In Maharashtra the Directorate of Technical Education controls the scheme through regional Deputy Directors and District Vocational Education Officers. Recently the Vocational Education has been split from the higher technical education and placed under the Directors of Training and Apprenticeship. The Maharashtra Board of Higher Secondary Education prescribes the syllabi and conducts examinations. In West Bengal the Director of School Education is the implementing wing and the examining body is the West Bengal Council for Higher Secondary Education. Bihar has set-up an Intermediate Education Council with expanded powers for post-secondary education in the State. It is likely to discharge both examining and implementing functions to a great extent. U.P. has appointed the District Vocational Education Officers in some districts with the supporting staff and a local Advisory Committee.

### 3 District Vocational Survey

3.1 "Learning to Do" recommended vocational survey at the level of metropolis, block, taluk, district or state as a "path of prudence for new vocationalised courses being started". The purpose of such survey was to make reasonably accurate estimates of manpower requirements in the area, the range of available occupations, the trend of emerging vocations, the details of the levels of competencies needed, the approximate duration for which such competencies may be in demand, and the extent to which educational and training facilities are available in the neighbourhood to provide the required competencies. Another concomitant objective was "to provide the data for the location of schools with vocational courses keeping into consideration the various other factors for implementation.

Funds were released to a large number of States while the scheme was under central sector at the rate of Rs. 10,000 per district. While a large

number of States have now conducted district vocational surveys many of the States are yet to start such surveys

3.2 The following position prevails as far as the district vocational surveys and their relationship to vocational courses are concerned in those States which have gone ahead with the implementation of the scheme

The States of Karnataka, Tamil Nadu, Gujarat, Andhra Pradesh, Maharashtra and West Bengal introduced the courses before conducting vocational surveys. Certain criteria of relevance to a region, facilities in given institution and many other subjective considerations which might have been different for different States were used.

As for the present, vocational surveys have been conducted in some or many districts of Tamil Nadu, Maharashtra and all districts of Gujarat and Karnataka while some districts are being surveyed in Andhra Pradesh. It may be noted that whatever the situation in regard to the surveys that might have been conducted the linkage of surveys—courses—institutions have not been established anywhere in spite of a considerable lapse of time since “Learning to Do”.

#### **4 Teachers' Selection And Training**

4.1 The teacher factor was given due importance in “Learning to Do” for general and vocational spectrums of courses. As for the appointment of teachers it was recommended that “there should be no insistence on post graduate qualification in respect of teachers of vocational courses. What is needed is means of developing the required skills and competencies in particular vocations and for this, services of persons who have had actual on-the-job experience may be fruitfully utilized to teach vocational courses. Part-time teachers may also be appointed wherever necessary.”

For teacher-training it was “recommended that both pre-service and in-service teacher education should be so organised as to bring about the proposed changes at this stage of education.” The universities were requested to reconstruct the teacher education curriculum for graduate and post-graduate classes to incorporate Socially Useful Productive Work and community service on the one hand and vocationalization of education on the other. Pre-service training courses were also recommended to be organized “on a mass scale”. To achieve this the universities, teacher training colleges, SCERTs, NCERT, boards of examinations, agricultural

universities, ICAR and similar other institutions were called upon to play a significant role

#### **4.2 Appointment Of Teachers**

The deployment of part-time teachers from amongst the expertise available in local institutions and community seems to be a common and popular strategy in Karnataka, Gujarat and Andhra Pradesh. It has also been tried in Tamil Nadu and Delhi but the low remuneration seems to prove a hindrance in acquiring the services of such experts or part-time teachers for all vocational areas.

There exist other patterns also for the selection of teachers in different States. Maharashtra has encouraged the appointment of teaching and non-teaching staff for which the norms were prescribed by the Directorate of Technical Education. There is a provision for one full-time teacher and one full-time instructor for each course along with supporting staff.

In Karnataka two teachers per school were appointed on regular basis besides the part-time teachers. In Tamil Nadu the services of the teachers of erstwhile bifurcated courses were utilised and a large number of fresh graduates were appointed. In Andhra, for certain engineering courses the teachers of erstwhile multipurpose scheme are being utilized. In Delhi the services of existing staff was utilized for the vocational stream also.

#### **4.3 Pre-Service Teacher Training :**

On the teacher training front, no State has initiated any pre-service programme to prepare vocational teachers to meet its needs. The Regional Colleges under NCERT have so far not contributed anything in view of the review of the RCEs programmes that went on for some time but some fresh initiatives are underway. Assessing the over-all situation in the area of pre-service teacher preparation one can conclude that, the efforts so far have remained inversely proportional to the force with which the related recommendations were made in "Learning to Do".

#### **4.4 In-Service Teacher Training :**

Short duration in-service teacher training programme have been conducted for several years in different States as per collaborative arrange-

ments between NCERT and States. These programmes generally run for a period of 2 to 4 weeks in summer vacations or any other appropriate time. Each course is structured for a group of 40 to 50 teachers consisting of teachers from 2—3 vocations in each course. The resource persons and trainees are deputed by the State Government while the supervision and guidance is provided by one or more NCERT expert and the Course Director. The details regarding these training courses are given in Table 4.1

Besides, a number of orientation programmes of much shorter duration were also organized by NCERT in different States between 1978 and 1981, for principals, teachers, officials etc. The aim of these programmes was to orient the key functionaries to the overall concept and philosophy of vocationalization.

TABLE-4 I  
Details of the Short-Term Training Courses conducted by NCERT

Year	Venue	State	Vocational	No. of Teacher expected	Trained	Duration Days
1979	Gram Sevak Training Centre, Amaravati	Maharashtra	Agriculture 1) Animal Science & Dairying 2) Farm Mechanic 3) Horticulture 4) Cottage Industry	45	41	16 days in October
1979	Govt. Poly-Technic, Kolhapur	Maharashtra	Technical 1) Electrical Maintenance 2) Mechanical Maintenance 3) Scooter & Motor-cycle Servicing 4) General Contracting	44	42	13 days in Oct-Nov
1979	R. A. Podar College of Commerce & Economics L. N. Road, Bombay	Maharashtra	Commerce 1) Banking 2) Insurance 3) Marketing & Salesmanship 4) Office Management			

1	2	3	4	5	6	7
1980	Agricultural University Parbhani	Maharashtra	5) Small Industries and Self-Employment 6) Elementary Industrial Management  Agriculture : 1) Animal Science & Dairying 2) Farm Mechanics 3) Horticulture 4) Crop-Science	44	93	14 days in Oct—Nov
1980	T N Agri University Coimbatore		Agriculture 1) Crop Production 2) Small Farm Management 3) Plant Protection	51	33	28 days in June- July
1980	St X'viers Technical Institute, Mahum, Bombay	Maharashtra	Electronics	44	10	20 days in in June
1981	I T I Kolhapur	Maharashtra	Technology Motor-cycle and scooter repairing	15	12	4 weeks in May-June
1981	I T I Pune	Maharashtra	Electrical Maintenance and Mechanical Maintenance	40	40	4 weeks in June

1	2	3	4	5	6	7
1981	V V Puram College of Arts, Science & Commerce, Bangalore	K. S. R. Reddy	Commerce 1) Accounts and Auditing 2) Accounts and Finance 3) English 4) Geography	4 <sup>th</sup>	29	4 weeks in June
1981	Tamil Nadu Agricultural University, Coimbatore	Lat. N. S. S.	Agriculture; (General and Special)	2 <sup>nd</sup>	19	4 weeks in June
1981	C T I Gundy, Madras	Lat. N. S. S.	Technology; 1) Machines 2) Domestic Electrical Appliances Repair 3) Electrical Motor Rewinding	3 <sup>rd</sup>	42	4 weeks in May



## 5. The Curriculum Design and Instructional Material

### 5.1 Curriculum Design

For vocational spectrum, the "Learning to Do" recommended a language (15% of the total time) General Foundation Courses (15%) and elective subjects (70%). Only one language was suggested keeping in view the paucity of time available. The General Foundation Course was intended to provide a broad background in life and history to broaden the outlook and to provide the student with essential information for helping them in pursuing any vocation on his own. The objectives and content of the course in two parts are given in detail in the document. Of the (70%) time allotted for the vocational electives about 50% was recommended to be spent on practical work. Avoiding duplication with IITs or Technical Higher Secondary School was emphasised and agricultural and rural orientation of the courses was highlighted. Amongst other courses were included the business and office management courses, para-medical courses, vocations relating to educational and other services, home science and certain others like commercial art, photography, printing, tourist guides etc.

The syllabus frames for many of the courses were also given. It was also categorically stated that "manufacturing industrial and engineering occupational skills are being more than adequately met by existing IITs, Polytechnics and so are not included in this report".

The time allocation for a course cannot be viewed in isolation of the total duration of the higher secondary stage for either the vocational or the academic spectrum of studies. The "Learning to Do" recommended that "the duration of vocational courses should normally be two years in so far as the instruction in schools in the formal system is concerned. The courses requiring lesser duration than two years may be pursued through non-formal systems".

Learning to Do "recommended that thereby no rigid streaming of course into general education and vocationalized education etc. Each school should be allowed to offer such general education and vocational courses in accordance with the facilities available and the demands in the region. The student on his side should be free to offer either general education or vocationalised courses or a mix of the two....."

The Committee also provided for many cross-over points, early and mid term, for transforming from one spectrum to another, bridge and part-time courses for making up deficiencies in the event of inter spectrum transfers so as to avoid labelling of the students as belonging to the one stream or the other

**5.2** The present position in different States runs as follows :

**5.2.1** In Maharashtra the "vocationalized education" pattern has been introduced which implies the meaningful blending of both general and vocational courses. Vocational courses of bifocal nature were introduced in which a student is permitted to take vocational courses in lieu of one language and one optional general academic subject. The pattern enables the students to have upward mobility into the college. The vocational group offers only English language. There is some restriction about course combination. For example the students without biology as one of the electives are not eligible to offer para-medical vocational course.

**5.2.2** In Karnataka vocationalization was implemented before the "Learning to Do" but in the background of the NCERT's national document. However, the course pattern followed is closer to "Learning to Do" than the NCERT's national document. The courses are of two years duration with the provision of external examination at the end of 2nd and 4th semesters. There are two distinct streams, one offering general courses and the other vocational courses with no provision for transmigration at any stage. The vocational stream like the general stream has two compulsory languages of identical content for which there is a common examination. The rest of the time (70%) is devoted to the vocational elective including supporting basic subjects. The theory : practical ratio is generally 1 : 2. There is no provision for the General Foundation Course as recommended in "Learning to Do".

**5.2.3** When West Bengal started the vocational courses the national guidelines had just been published and "Learning to Do" did not exist. Since the preparation for vocationalization must have gone on for some time before actual implementation, it may be safely stated that the pattern adopted in West Bengal is independent of the national document - "Higher Secondary Education and its Vocationalization". Keeping in view the provision for horizontal mobility the West Bengal Council of Higher Secondary Education prescribed a pattern in which vocational students study 50% of what the general students do, so that the

remaining 50% could be completed through bridge courses if a student desires to go for higher education in a college. Thus 50% of the total time was allowed for vocational electives. In this, one vocational elective was allowed (except in commerce group where two were allowed). In this regard it is interesting to note how the course pattern resembles the one suggested by NCERT in its national document which was later modified by "Learning to Do". A word about the common courses and the bridge courses is called for here. The amount of 2 languages component and the three other general electives were reduced to half for vocational stream students of what is prescribed for the general stream students. The bridge courses actually provide the remaining part of the languages and the 3 electives to the vocational students provided they desire to go for college education. There is no general course to go with the vocational stream. However, the "bridges" have not been operative.

**5.2.4** The pattern in Gujarat defies an analysis on the above lines since it does not follow the recommended course pattern to any cognizable extent. The syllabus published in 1976 for the vocational higher secondary courses to start the same year has detailed out the prescribed course pattern. There are diploma courses of fixed three years duration and certificate courses of varying durations from 6 months to 2 years. The content of each diploma course is worked out in such a manner that English language is prescribed for the Diplomas in Banking, Accountancy, and Salesmanship and Marketing each of the 3 years. The certificate courses, however, have no provision for a language and each has a content suited to the vocation.

**5.2.5** In Tamil Nadu the vocational courses of fixed duration (2 years) occupy a total of 1420 periods while the two languages occupy 288 periods which are common for both the streams according to the syllabus published in March and April 1977. The ratio of the vocational elective to total works out to be 20 : 35 or roughly 55 to 60%. The general or supporting course to a vocation is incorporated inseparably in the papers for the respective vocational elective. One elective from amongst those prescribed for general courses is also to be taken along with the vocational elective to the extent of 6 periods a week. The streaming apparently is of the rigid type with no provision for transmigration or interchangeability at any stage.

The Committee also provided for many cross-over points, early and mid-term, for transforming from one spectrum to another, bridge and part-time courses for making up deficiencies in the event of inter spectrum transfers so as to avoid labelling of the students as belonging to the one stream or the other.

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In Andhra Pradesh, which started vocationalization in 1979, nearly, a quarter of the total instructional time for a period of 2 years is allocated for English. The rest of the time is devoted to the vocational elective and certain supporting subjects. Thus the vocational elective inclusive of the related general subject accounts for about 23 of the total course for most the courses. Like in Karnataka and Tamil Nadu the streaming is of the rigid type with no scope for horizontal migration.

The Central Board of Secondary Education (inclusive of Delhi) adopted the course pattern of the NCERT's national document with a core of one language and general study (25%) for both the academic and vocational stream students. The rest of the time (75%) is split into a vocational course consisting of the study of basic sciences or social sciences relevant to vocations (25%) and practical skill and occupational experience (50%). It may also be noted that the core of general study was later dropped from the curriculum and the language component was increased to 20% with vocational component of 80%. Including the General Foundation Course. The courses of basic sciences and social sciences have remained in common with the academic stream but there is no mechanism built into the system for interchangeability between the streams as stipulated in both the documents being referred to above.

### **5.3 Instructional Materials**

**5.3.1** On recognition of the fact that some general and vocational courses are not readily available, the Learning to Do observed that, "in order to impart instructions in vocational courses, in agricultural and related subjects, it is recommended that the books be written on a priority basis to suit local conditions and made available to schools." It also recommended for translation of books produced in other countries for certain general and commercial courses in Indian languages.

Modular nature of courses was recommended so that instruction could be imparted through well connected modules and evaluation could be a continuous process being conducted at the end of each module.

The work in the area of instructional material development has so far remained in a very rudimentary form. No steps have been taken at national level to work out a suitable strategy. However, there is a provision to financially assist the States in getting the materials developed by suitably remunerating the authors.



5.3.2. Tamil Nadu has produced a number of guide books for teachers in diverse subjects. In Karnataka no centralized effort has been made and the students depend on the lecture notes and cyclostyled materials provided to them by the teacher. In Gujarat the courses have been prescribed and examinations are conducted but no consideration has been given to instructional materials. The Central Board of Secondary Education for its affiliated schools of Delhi and elsewhere has prescribed some of the existing books for this purpose but books specific to vocational courses are not available. In Andhra and Maharashtra also no instructional materials have yet been developed for the courses.

## 6 Other Important Issues For Implementation :

6.1 "Learning to Do" recommended that "spare capacity of all existing vocational/technical schools should be used by running double shifts and adding further courses to the ITIs, Polytechnics, industrial high schools etc in accordance with the demands for them". It further recommended, "as little or no vocational educational facilities exist in rural areas, all new schools should be constructed in rural areas and should be adequately equipped".

In support of these recommendations it was argued that the existing 327 polytechnics, 361 ITIs, about 560 para-medical schools, 120 commerce schools, 22 veterinary schools and 3 mining schools would absorb about 2.5 lakhs of students every year. An estimated 3.5 lakhs per year was presented to be absorbed through the vocational spectrum of the higher secondary schools. By running some of the existing institutions in double shifts an additional 50,000 was expected to be absorbed. It was envisaged that in order to direct 50% of the students who pass at this stage to vocational courses it would be necessary that 4000 of the existing 9,700 institutions for this level (higher secondary schools/intermediate colleges/junior colleges) should provide a wide variety of vocational courses. This was on the assumption of the enrolment remaining static. For a projected 25% increase in enrolment it was argued that additional schools for vocational courses would be needed. This worked out to be 150 new schools to be opened in addition to the 400 old schools brought into the vocational pattern every year between 1978 and 1988.

The Working Group report made nearly identical recommendations for strengthening existing institutions and opening new schools in rural areas.

TABLE-61

Number of State wise institutions running Vocational Courses at -2 stage and enrolment therein

No	State UT	No. of Institutions				Enrolment			
		1977	1978	1979	1980	1977-78	1978-79	1979-80	Total
1	Andhra Pradesh	Nil	Nil	22	77	Nil	Nil	536	Nil
2	Gujarat	12	30	25	31	674	1277	1230	843
						-62*	-1172*	299**	434**
3	Karnataka	13	45	76	82	1030	Nil	2145	1713
4	Madhya Pradesh	Nil	33	107	155	Nil	1658	Nil	3065
5	Tamil Nadu	Nil	709	911	944	Nil	24409	Nil	2725
6	West Bengal	69	63	62	62	2493	1870	2360	2300
7	Delhi	17	17	17	15	700	Nil	484	473
8	Pondicherry	Nil	5	5	5	Nil	Nil	192	180
								180	184
	TOTAL	111	902	1228	1371	4559	1870	33982	4190
								40024	32687
								47674	36430

\* Students of one-year Certificate Courses

\*\* Students of 3rd year of 3-year Diploma Courses

6.2. Table 6-1 shows the existing position. It may be presumed that numbers in regard to each State are for the existing schools brought into vocational pattern and that no new schools have been started yet.

It can also be presumed that the recommendations of "Learning to Do" for opening new ITIs and other institutions, increasing enrolment in them, and adding extra shifts have not made much headway

6.3. The following position prevails in regard to the selection of institution in different States.

6.3.1. In Karnataka the scheme started out with 13 non-Government higher secondary schools and junior colleges which has now expanded to 82 institutions. There are no separate vocational schools but horizontal mobility has not been made possible in the present system of streaming. The only common courses between the two streams are the two languages with the allocation of 30% time on the timetable. There are no mixing up of vocational and academic activities and the identification of a student with one or the other stream is total.

The information about the rural-urban proportion is not available.

6.3.2 In Gujarat institutions desiring to start vocational courses were asked to apply and permitted to start them even without a preliminary screening. The studies conducted by N C E R T have shown that some such institutions are rather inadequately equipped for these courses. The vocational courses are being run in both private and government schools and colleges. Courses that have been started in a total of 30 institutions are only in the commercial areas. This apparently shows that the vocationalization in Gujarat has no rural orientation.

6.3.3 In Tamil Nadu the entire State is thoroughly covered considering the short span of time over which the scheme has been in operation, through nearly thousand schools. In view of this, naturally, the courses are now running in many such schools which are rather ill equipped. An unique strategy that seems to be in operation in Tamil Nadu is the attachment of the school offering vocational courses to local industries, hospitals, farms, banks, factories, workshops, etc. This, to a great extent, makes up for the lack of their own facilities in the schools and is in conformity with national recommendations.

6.3.4 In Delhi the 17 higher secondary schools were selected on the

basis of occupational surveys. These belonged to both Delhi Administration and private bodies. The selection was also based on the existence of infrastructural facilities required for certain courses.

**635.** In Andhra Pradesh, Junior colleges are running the vocational courses. They are all managed by the State Government. For a State of the size of Andhra Pradesh the implementation has been at a rather small scale and the scope for expansion in rural area is remains enormous.

**636.** The Directorate of Technical Education in Maharashtra invites and screens applications from private junior colleges and schools. A unique feature of the course pattern is the mixing of vocational and academic courses to avoid the danger of a label being attached to a student as being 'vocational' or 'academic'. However, the extent of vocationalization, i.e. a set pattern of 35% is felt by many to be inadequately small. The desirability of the two types of courses running under the same roof and mixed streamer have been incorporated only in Maharashtra. It has been stated here without any reference to its merits or demerits.

Perecution to rural areas with relevant courses for a vast segment of population perhaps desirous to terminate at this stage may now be explored and course composition suitably modified.

**637.** In West Bengal the selection of institution has also been largely arbitrary and being left to the institutions themselves.

**638.** The selection of institution in Bihar, U.P. and Haryana which are in the process of preparation to vocationalize are more likely to be based on survey and other prevailing considerations.

## **7 Future of Students - Employment, Apprenticeship and Vertical Mobility**

**71.** The "Learning to Do" suggested that apprenticeship facilities should be extended to all the students who complete education in vocational stream if they so desire and for this suitable rebate of training should be worked out taking into account the curricular content, depth of knowledge and skill competence.

It further recommended that "the recruitment policy of the Government as well public sector organisations should be revised and job requirements should reduce the university degrees as essential qualifications. Vocationally qualified persons should so be preferred to graduates, and be

entitled to the pay-scales available to the graduates as long as the jobs performed are the same or similar'. This recommendation was based on the finding that for about 80% of the jobs which are advertised the university degrees are prescribed as essential qualifications regardless of the needs and the requirements of the job.

It also suggested that "the vocational courses should not be a dead end in themselves. For those who wish to continue and improve their qualifications there should be provision for allowing them to admission to the 2nd year of the agriculture university or in 3rd year of the polytechnics or of nursing colleges and other such institutions where admission requirements is a ten-year school pass". For such entries the Review Committee suggested that the universities may prepare package of pre-requisite courses in order to make up the deficiencies, if any for the vocational students.

7.2 The present position in regard to the employment opportunities either the wage or self type is not very encouraging. Only for certain courses and in some States some efforts might have been made but the details are not available. Self-employment for the vocational products is often highlighted but the necessary guidance, resources and assistance is hardly available as a package. The talk of self-employment often seems to fall flat on the students of this tender age who are still not very clear about what they would like to do in life.

7.3 Some steps are underway in Andhra and Maharashtra for providing vocational education at the college level as an extension of continuing education facilities but concrete proposals are not insight. A great deal of ground work has been done through several meetings and discussions at regional and national levels about the extension of apprenticeship facilities to vocational students but so far no positive result is evident.

7.4 About recognition and parity of courses there may be a few instances in Karnataka and Andhra but the overall picture is far from being satisfactory.

7.5 It has been noted as a general trend that many of the State Governments under popular demands have made certain incentives for admission of the products of vocational courses into degree classes both in general and technical fields. It often operates as a side or backdoor entry to the institution of higher learning for which the student may not have been

qualified initially. In spite of certain incentives, a very small percentage of students have been able to benefit but such steps tend to be self defeating to the goals of vocationalization of education, which among others, provides for the vocational courses being terminal in nature so as to reduce pressure from the expensive higher education. There may be a need to consider the desirability of such steps keeping in view the present aspirations and demands from the society on one hand and the goals of vocationalization of education on the other.

## B. Summary Of The State Reports\*

### 1. Andhra Pradesh

— Shri K. I. Narsimham  
Joint Secretary, APBIE,  
Hyderabad.

Vocationalization in A P was started in 1979-80 and by 1981-82, 84 institutions were covered out of which 52 were in rural areas. The pattern in A P is such that the plus 2 stage education is carried out in junior colleges and the courses are called intermediate courses. There are a total of about 3 lakh students on the academic stream in 550 junior colleges. Out of this about 3000 students are covered under vocationalization of education by 1981-82. The administration of colleges in terms of the appointment of staff, release of finances, selection of institutions etc. is done by the Director of Higher Education. For vocational courses, as in the case of academic courses, the matter pertaining to curriculum development, prescription of text-books, conduct of examination, is with the APBIE which is an statutory body. In addition, the job of recognition of vocational courses for employment and for vertical mobility is also undertaken by the Board of Intermediate Education. The Vocationalization was started with 16 types of courses falling in the area of Engineering and Technology, Agriculture, Animal Husbandry, Commerce, Para-medical in 1979-80 and four more courses have been added in 1980-81. Except those of the para-medical courses the products of all other courses have been permitted vertical mobility by the Universities and other professional institutions. The Government is seriously considering the question of providing wage-employment to the products in Government Departments and various undertakings. They have appointed sub-committees for various groups of courses with a request to identify the jobs in various departments for which vocational pass-outs can be made eligible. The respective sub-committees have submitted their reports to the Government and accordingly the changes in the cadre and recruitment rules of different departments are being effected. Surveys to identify the new areas in which technically trained manpower is in

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\* The detailed State Reports may be seen in appendix

demand has been conducted in three districts and the reports are being printed. The findings of the surveys are likely to be implemented from 1982-83 for designing suitable courses.

## 2. Delhi

— Shri B P. Singh  
Senior Science Counsellor  
Delhi Education Directorate,  
Delhi.

The paucity of text-books is seriously felt for successful implementation of vocationalization of education. The development of entrepreneurship is difficult at the age at which the students are out of the plus two stage and the opportunities of self-employment are bleak. The opportunity for apprenticeship should be provided. Delhi has a proposal to conduct a follow-up survey to know the placement of vocational students. It is presumed that most of the students must have gone for higher education. The group of students which secures 45 to 50% of the total marks at the X class level are choosing the vocational courses. The training in vocational courses is being given in the institution itself.

## 3. Gujarat

— Shri P K Laheri (IAS)  
Director of School  
Education, Gujarat.

Vocational education in Gujarat at present is not in the formal school system. It is dealt with by different departments like Industry, Cottage-Industries, Employment etc. These courses vary in duration from six months to three years. They are of three categories, (i) ITI level (ii) State level technicians and (iii) Apprenticeship level. These courses, particularly those under the State level, have been chosen to meet the particular demand. For example, at Narmada project site, a course for "Earth Movers Drivers" has been started to meet the demand of trained drivers required for the project work. Such type of vocational education was started in 1977 and 30% of 65000 students in academic area were diverted to vocational education. As on today, there are about 2 lakh students in academic area but the percentage diverted to vocational education remains the same. The State is committed to divert 50% of the students into vocational courses. Gujarat is very much advanced in industrialisation and there is great demand for applied tech-



merians, particularly of the ITI pattern and also for office management, applied chemistry for textile industry etc. This kind of vocational education in Gujarat is looked after by a Board consisting of the Directors of Technical Education, Employment and Cottage Industries. All these departments are involved in finding the employment for the products. About 80 to 85% of so trained personnel find job, within a period of one year. Industries are quite cooperative to provide in-plant training for the students. In order to make the courses truly terminal and also to curb the desire to get back to general education stream, courses like Office Practice, Tourism etc. are introduced and the courses on Accountancy, Book Keeping etc. were discontinued. A total of 14 multi-purpose schools are being converted into ITIs. Career development courses like Tourism, Journalism etc. are being run with increased duration and also the students are being provided further training as well as apprenticeship in order to make them eligible to handle the jobs confidently and independently.

It was reported that the State of Gujarat has decided to introduce vocationalization at the higher secondary stage of education on the basis of its rich experiences of conducting several vocational courses of the terminal nature as a part of its post-secondary education. This is to begin in the year 1982-83 in 200 multipurpose schools and basic schools.

#### 4 Karnataka :

—Shri Ragvendia Rao (IAS)  
Director of Vocational  
Education, Karnataka.

In Karnataka vocational education was started in 1977-78. As of today 95 junior colleges out of 600 are running vocational courses of 35 varieties in 158 sections. The administration as well as examinations of vocational education is looked after by a separate Director appointed for vocational education. A State Council of Vocational Education with the above Director as the Chairman has also been constituted. Though universities have provided vertical mobility to general education courses like B A., B Com. etc. only 25% of the pass-outs of vocational streams are opting for it. The desire to go for college education is in the urban areas and much less in rural areas. The course content consists of English, Kannada, and one vocational subject. There was no felt need for planning any bridge course to enable the students to go for higher

education. However, if any deficiencies are found in the content to meet the requirements of a particular job, bridge courses are being planned to bridge the gap. Even at the age of 17 many of the vocational students are capable of and actually engaging themselves in self-employment ventures. This is more pronounced in rural areas. The institutions like Canara Bank have come forward to finance the self-employment schemes presented by the students. The courses are so popular that even graduates are getting themselves enrolled in vocational courses.

#### 5. Maharashtra .

—Shri K. M. Gedam,  
Director of  
Training and Apprenticeship  
Maharashtra.

In Maharashtra the Director Technical Education is in-charge of Diploma and Degree courses in Engineering and Technology, and Director, Training is in-charge of ITIs and vocational courses. About 15,000 boys are being educated under vocationalization. All the courses have been provided with the scope for vertical mobility and they were not made terminal. The course content has one language, 3 academic subjects and in lieu of second language and one optional academic subject the students allowed to opt for vocational subjects which have two papers each of 100 marks. The courses are of bicolour nature. This was decided since larger number of terminal courses are already available in ITIs and Polytechnics. The vocational courses need not be made terminal in character. Most of the vocational courses have been given only to private institutions. The students with an engineering option are given 5% of marks as weightage or admission into degree and diploma courses. Similarly those with agriculture are also getting a weightage of 10 marks for admission into B. Sc agriculture course. The courses are very attractive for the reason that sufficient weightage is being given for admission into higher professional courses.

#### 6. Tamil Nadu :

—Shri V.A. Shivgnanam,  
Joint Director of School  
Education, Tamil Nadu.

Tamil Nadu switched to the Higher Secondary School system in 1978-79 and simultaneously introduced vocational courses. From 1981-82

out of 1362 higher secondary schools, 1014 are running vocational courses. About 28,520 students are enrolled in vocational courses as against 2,75,000 in the academic stream. At present they are running vocational courses in 49 areas. The administration of vocational education is under the Director of School Education acting under the advice of a policy formulating high level steering committee having the Secretary Education as the Chairman and Director Technical Education, Director of Higher Education, and Secretary (Finance) as members. The content of vocational courses has four periods of regional language, four periods of English and 24 periods of vocational subjects plus one related academic subject on the weekly basis. In addition to the above two periods for physical education and one period for oral education are allotted. The vocational subjects are taught mainly by part-time teachers working in various Government departments. They are paid Rs. 150/- per month if they handle one class (XI or XII) in one school and Rs. 300/- if they handle both the classes or if they handle one class each in each of the two schools. The above remuneration is for 10 periods of vocational subjects. Two part-time teachers are appointed for each class. The teachers of the erstwhile bifurcated courses have been appointed on full-time basis at some places in addition to the above part-time teachers. The co-operation received from the establishments like banks, hospitals etc. for giving training or sparing the services for part-time instructions is quite encouraging. There are 27,000 parent-teacher associations functioning in the State and they give suggestions regarding selection of courses etc. Many good students are found to be enrolling in vocational courses. Selections are made on the basis of 10th class marks and also on the recommendations of the staff councils. There is a great and increasing demand for vocational courses from the students. Teacher-guide books have been prepared for vocational courses which are popular.

A survey of placement of products of the vocational courses in North Arcot district has been conducted which reveals that 49% of students have taken up wage-employment or self-employment, 47% opted for higher education, of which 22% opted for professional education and the whereabouts of 4% are not known. There was no problem with the universities in terms of their accepting the students to provide vertical mobility. In polytechnics 10% seats are also reserved for the vocational products. Steps are being taken to modify the recruitment rules in consultation with the various departments of the Government. The Director of Medical

Services has provided the qualification of vocational course in nutrition for appointment in hospitals as nutrition assistants

The examinations are conducted by the Commissioner of Examinations. A district level common examination is conducted at the end of the XI class and public examination is conducted at the end of class XII. Facilities for migration from academic stream to vocational stream and vice-versa are provided at the beginning of the XII class. Some of the factories are prepared to provide on-the-job training and such courses are started on the advice of management of factories. District vocational surveys were conducted during 1978-79

#### 7. West Bengal :

—Mr. B. C. Sen,  
Deputy Director of  
Education, West Bengal.

West Bengal introduced vocational education at plus two level in 1976-77 as per the recommendations of the Kothari Commission. Director of School Education looks after the administration of vocational education. Vocational courses in five stream were started in 99 schools with 30 students in each class in 1976-77 with the total enrolment of 2500. In 1981-82 the strength has dwindled to 2000 in 53 schools which are at present offering vocational courses. Out of these 23 or 24 schools are offering agriculture and the same number of technical courses, 5 or 6 schools commerce courses, and one para-medical course. The vocational course goes with two Languages of 100 marks each and three electives of 100 marks each. The vocational subject occupies 500 marks. The languages and the electives are the same as in the academic streams, the syllabus content is exactly halved. The periods gained by so halving the content are utilised for vocational subjects. There is no examination at the end of XI class but one public examination is conducted after the XII class. Vocational products are being permitted to appear at the entrance test for all professional courses. The courses with technical bias are not being encouraged. The agriculture courses are quite popular and many students have found employment after passing. Some of them are admitted to B. Sc. (Agriculture)

Two full-time teachers have been appointed for each vocational course. In some of the cases the qualification prescribed by the higher

secondary council are found to be so high that they are not able to fill the posts and hence there is a need to review with a view to reduce the qualifications. The pharmacy course had to be discontinued as the Pharmacy Council of India did not recognise the course since the content in their opinion were not in accordance to what they prescribe.

**8 Arunachal Pradesh :**

—Shri M. S. Tyagi,  
Principal Govt Hr. Sec  
School, Bomdilla,  
Arunachal Pradesh

Even though no surveys have been conducted on scientific basis preliminary survey was made and six courses were identified. These however could not be introduced since suitably qualified teachers were not available. There is no scope for appointing part time teachers as employees working in other departments and organisations are not ready to take up the part-time teaching jobs for the small honorarium that would be paid. About 300 to 400 students are studying in the general education stream and the problem of unemployment is non-existent.

**9 Assam .**

—Dr. G. N. Talukdar  
Deputy Director of  
Public Instruction,  
Assam.

Consequent upon the acceptance of the national pattern of education structure of 10 + 2 + 3 years and the stress laid on the vocationalization of education the Govt of Assam constituted a committee with Shri N. P. Besbarua as Chairman in Oct. 1975 with a view to study and report as to how best education at + 2 stage can be vocationalised. The Committee submitted its reports in 1978. The Committee recommended that a survey should be conducted prior to introduction of the vocational subjects in +2 stage regarding and future manpower requirement in different fields and resources available in the higher secondary institutions. As per recommendation of the Committee the survey was conducted in four districts of the State and the Survey reports have already been submitted to the Govt of India for their approval. The Govt of Assam is awaiting for the approval of Centre for its implementation. A fresh survey is proposed again in some more districts.

- 10 Bihar :** - Shri S S Das, Secretary,  
Bihar Intermediate, Education  
Council, Patna, Bihar

The plus two stage of education was introduced in Bihar in 1981 only. So far nothing has been done about the vocational courses. There is a proposal, however, to start vocational courses from 1982.

- 11. Chandigarh :** —Shri J M Dhand, Director  
of Public Instruction,  
Chandigarh.

Most of the students in Chandigarh hailed from Punjab, Haryana and Himachal Pradesh. As such the pattern of Education in these States, influences the situation in Chandigarh in regard to such matters.

- 12. Jammu & Kashmir :** —Shri O P. Baru, Joint  
Director (Trg.), J & K  
Srinagar

The 10+2+3 pattern is existing in this State but not much has been done in respect of the vocational education. A Committee appointed for the purpose of introducing vocational education has submitted its report and the Government of J & K is yet to accept it.

- 13 Haryana** —Shri W C Arora, SCERT  
Gurgaon, Haryana.

The 10+2+3 pattern has not yet been introduced in this State. Vocational surveys are being conducted in 12 districts.

- 14 Himachal Pradesh :** —Shri H. R. Agarwal,  
Asstt Director of Education,  
Himachal Pradesh.

The 10+2+3 pattern is proposed to be introduced in this State in 1982. Vocational surveys are also proposed to be taken in 12 districts.

**15. Kerala :**

—Dr. S. Vasudev, Director,  
Technical Education,  
Kerala.

Only after proper stabilisation of 10+2+3 pattern of education the State proposes to introduce change in the system to include vocational courses. Kerala would like to wait and watch the experiences of other States in this regard. The State level surveys for vocational courses are being conducted under the scrutiny of Government. The State proposes not to introduce technical courses but only para-medical, commerce courses etc.

**16. Mizoram ,**

—Shri C. Lalmuana, Secretary,  
Intermediate Board of School  
Education, Mizoram

The 10+2+3 pattern will be introduced from 1982 and hence the question of vocational education has not arisen so far. Out of 210 schools 20 have been selected for upgradation into higher secondary institutions. In regard to the vocational courses or the surveys, nothing has been done so far.

**17. Orissa :**

—Prof H. K. Mishra,  
Officer on Special Duty,  
Higher Secondary Education  
Orissa

The 10+2+3 pattern has been accepted by the State and plus 2 stage is to be implemented from June 1983. The vocational courses would start simultaneously. The Draft report is being prepared and a bill for constituting a Council of Higher Secondary Education is being mooted. Regarding the selection of vocational courses discussions are still going on in the State.

**18. Punjab :**

—Shri M. M. Singh, Deputy  
Director (Vocational)  
Punjab,

The 10+2+3 pattern has not yet been introduced in Punjab. How-

ever, in 1974-75 vocational stream was introduced at the secondary school level. About 100 middle schools and 50 high schools are covered under the scheme. Punjab School Education Board framed the syllabi for these courses. At the middle school level these courses are given in the form of "practical arts" where only the use of tools etc. are taught to the students. In IX and X Classes students practise two trades and in the XI Class one trade is pursued. The results of employment for these vocational boys are not encouraging because the practical content, in the course is very little. The vocational courses are taught outside the working hours and students are enthusiastic for admission in the courses as they hope to score better marks which helps entry into the higher academic course.

**19. Rajasthan :**

—Shri K G Bijawat, Deputy  
Director of Education,  
Rajasthan

The 10+2+3 pattern is proposed to be introduced from July 1982. During 1975-76, four engineering courses were started under vocational programme but they were not popular with the students.

**20. Tripura :**

—Shri S.B Biswas,  
Deputy Director of  
Education, Tripura.

In 1978 an orientation programme was held for conducting vocational surveys for identification of courses. Five areas were identified and there is a hope of introducing courses in the near future, perhaps in 1983.

**21. Uttar Pradesh :**

—Shri Sudhakar Sharma,  
Addl. Director of Education,  
Uttar Pradesh.

The 10+2 pattern is already existing in Uttar Pradesh. The ITIs and Polytechnics are sufficiently active to meet the needs of vocationally trained manpower. No concrete plan has yet been evolved for the introduction of vocational courses.



## PART III

# Issues, Problems and Recommendations



# Issues, Problems and Recommendations

## Administration

1.1 The Seminar noted that the previous documents such as "Higher Secondary Education and Its Vocationalization" and "Learning to Do" have not made any recommendation about the actual agency/department for implementation of vocationalization of education in States

—The Seminar further noted that the administrative aspects relating to implementation of the programme are being looked after by different departments/agencies in different States such as Directorate of Higher Education, Directorate of Technical Education, Directorate of School Education, Directorate of Vocational Education, Intermediate Boards and Councils.

—The Seminar also evaluated the merits and demerits of the vocationalization being looked after by different departments and agencies.

—The Seminar noted with appreciation the experiences of the State of Karnataka which has implemented the scheme by creating a separate Directorate of Vocational Education

—The Seminar also discussed the problems that may be associated with the creation of an independent Directorate on the pattern of Karnataka.

—The Seminar accepted the inadequacy of a small cell attached to a department of education to achieve proper implementation of the vocationalization of education programme.

In light of the above the Seminar recommended that to implement vocationalization of higher secondary education the State Governments should constitute independent Directorate of Vocational Education,

However, if an independent Directorate could not be formed the implementation may be entrusted to an officer in the Education Directorate who should be of the rank not lower than the Additional Director nominated exclusively for this purpose and vested with adequate authority needed for effective implementation

1.2. The Seminar noted the existing arrangements for conducting the final examinations at the end of class XII for the vocational spectrum of studies in different States

—The Seminar also discussed the problems associated with the provisions of relatively smaller number of staff to look after the diverse needs of the vocational courses from the examination point of view

The Seminar, therefore, recommended that the existing agencies conducting the examinations for the higher secondary/Junior colleges/intermediate stage may continue to conduct the examinations for the vocational courses also. For this purpose the Seminar recommended that the Boards/Councils should be adequately strengthened with personnel and funds keeping in view the special requirements of evaluation in these courses. It was felt that the number of students appearing for a course would be a wrong parameter for such strengthening particularly in the initial phases of implementation

1.3. The Seminar noted with satisfaction the decision of the All India Council of Technical Education to constitute the All India Board of Vocational Education (AIBVE)

—The Seminar discussed the relationship between vocational education and technical education with particular reference to the recommendations of the "Learning to Do" which made it clear that the type of courses and education being imparted through polytechnics and ITIs should not be duplicated through the school vocational education.

—The Seminar discussed the objective of vocational education and noted the differences between those of technical education through ITIs and polytechnics

The Seminar also emphasized the aspect of diversity of vocational courses which included agricultural, commercial, paramedical and various other types of courses.

The Seminar, therefore, resolved that the proposed Board should function independently of the AICTE. It was further resolved that AIBVE should have proper representation of the people from all areas of vocational education and that it should be able to provide necessary guidance to the States from time to time.

**14** The Seminar noted that although constitution of State Councils of Vocational Education was recommended by the previous national documents most of the States have not yet taken steps to constitute such Councils.

—The Seminar also noted that in absence of such Councils which could coordinate the work of different agencies the implementation of vocationalization programme has left much to be desired.

The Seminar, therefore, endorsed the earlier recommendation of “Learning to Do” and its predecessor document on the subject of the constitution of SCVE, in letter and spirit. It resolved further that immediate action on part of the concerned Directorates is needed in all the States for constituting these Councils.

## **2 Vocational Surveys**

**21** The Seminar noted with satisfaction that a number of districts in various States have been surveyed on the pattern suggested by the NCERT to assess the manpower needs and to identify the institutions and courses.

—The Seminar also analysed various difficulties and problems encountered by the survey workers for an exhaustive and intensive survey.

—The Seminar noted that although there are many good reports on vocational survey, in most of the situations it is not possible to establish a clear correspondence between the manpower needs, the courses and the institutions. It was felt the quantification has often been ignored and that most of courses still being taught are not really based on the survey findings even today.

—The Seminar felt that the survey guidelines prepared by the NCERT require modification in view of the experiences now available and that there is a need for a comprehensive handbook for the survey workers to do the work more effectively.

The Seminar therefore, recommended that the NCERT should convene a meeting of the officers concerned with district vocational surveys to resolve the issues and problems in this area. It suggested that this meeting should revise the survey guidelines, schedules and statements on the basis of experiences gained. It was further resolved that a comprehensive handbook for conducting vocational surveys should be prepared and made available to the States. It suggested that in conducting such surveys employment exchanges, Principals, Teachers, Experts etc. in the area should be contacted for gathering information.

**2.2.** The Seminar appreciated the work done by NCERT in orienting the survey workers of various States for conducting district vocational surveys and suggested that NCERT should organise more programmes for orienting survey workers and officers and that selected research projects in this area may be assisted by the NCERT.

**2.3.** The Seminar received the information about the constitution of District Manpower and Employment Generation Councils under the aegis of the Labour Ministry. The Seminar noted that while these Councils will take a comprehensive view of the employment and all problems at the district level, the district vocational surveys would be necessary for identification of competencies with particular reference to the higher secondary stage of education.

The Seminar, therefore, recommended that while conducting the district surveys proper linkages may be established with these Councils wherever possible.

**2.4** The Seminar noted that conducting the district vocational surveys sometimes becomes a difficult pre-requisite for implementation of courses even on a pilot basis. It was felt that it often causes a delay and postponement of even limited implementation of vocationalization in schools.

While the Seminar endorsed the earlier recommendations that the selection of courses, their content and the choice of institutions should be based on vocational surveys it provided that till such surveys are completed vocational courses may be introduced on a limited scale on basis of their assessed chances of success as a measure of prudence in the initial phases. It was felt that such initial trials would help the States to expand the programme on the basis of their own experiences.

### 3 Teachers Selection, Training and Emoluments

3.1 The Seminar noted that the salary scales and qualifications of teachers vary a great deal from State to State

—The Seminar noted that different States have employed teachers from different categories such as the teachers of multipurpose scheme, the teachers of bifurcated courses, making use of the existing teachers, appointing fresh graduates, etc. for teaching the vocational courses

—The Seminar also noted that the qualifications and salary scales need modifications in different States to accommodate professionals for paramedical, technical and other courses

In view of the above the Seminar recommended that the qualifications and salary scale for vocational teachers should be given due consideration by the States and that the persons with lesser academic qualification but with good practical background may be posted in the PGT scales.

3.2 The Seminar noted that the provision of part-time teachers is not a passing phase since the vocational courses would keep on placing demands for the use of suitably qualified personnel in the community for teaching on part-time basis

The Seminar, therefore, recommended that in selection of part-time teachers their communication abilities should be given due consideration along with their competence in practical skills

3.3 The Seminar noted that many institutions such as ITIs, CTIs, TITIs, para-medical institutions have workshops and suitable training facilities which may be appropriate and adequate for the in-service training of vocational teachers

—The Seminar also noted that although all previous documents have emphasised the pre-and in-service training of teachers the efforts in this direction so far have remained inversely proportional to the force with which the recommendations were made. In this regard the Seminar further observed that most of the States which have introduced vocationalization have not designed any programme for the in-service training of their teachers

The Seminar noted that NCERT has conducted a number of short-term teachers training courses for vocational teachers in different States on their request but observed that some States have not yet made use of the training programmes offered by the NCERT,

—The Seminar recorded that for pre-service training of teachers no steps have so far been initiated either by the State Governments or by the Central agencies

—The Seminar considered the submission of the Regional College of Education (RCE) Bhopal that the college has planned a post-graduate course in Commerce for preparing vocational commerce teachers and that the introduction of the course is under the consideration of the Council. It was also noted that there is a proposal from RCE, Ajmer for a similar course in Agriculture

—The Seminar also considered the submission of RCE, Bhubaneswar in which it was stated that in accordance with the recommendations of the NCERT Committee the college was willing to train B Sc degree holders with Physics and Mathematics who were available in plenty for 2 to 2½ years to teach vocational courses provided definite requests were made by the States for such a training

The Seminar, therefore, recommended that for the in-service training of vocational teachers the facilities available at the existing training institutions under the Ministries of Labour and Education etc. such as ITIs, CTIs, TTTIs and Polytechnics should also be utilised

The Seminar also recommended that the Regional Colleges of Education of NCERT should be called upon to play a very special role in training of vocational teachers. They should utilise their available expertise to study systematically the need for regular teachers in their regions at least in some fairly common courses and institute pre-service and in-service courses on the basis of such findings. However, the Seminar felt that specific proposals or requests from the respective State Governments in this regard would greatly facilitate the work of RCEs

34 The Seminar also recommended that the sphere of action of RCEs may not be restricted to particular region only. There may be national courses as well on the post-graduate level where students from all over the



country may be trained. The Seminar felt that there may be model courses for the guidance of States

**3.5** The Seminar further recommended that State Governments may take timely steps for teacher preparation through pre service courses to meet the projected needs of vocational teachers since the preparation of teachers has to be planned well in advance to meet the future projected needs. This the Seminar felt would ensure more effective implementation of the vocationalization programme

**3.6** The Seminar further recommended that in appreciation of the special requirements of vocational studies and recognising also the fact that cost per student in these courses would be higher than other conventional courses, adequate financial provision would be called for to meet the needs of these courses

#### **4. Curriculum Design and Instructional Materials**

**4.1** The Seminar reviewed the existing situation in States about the availability of suitable instructional materials for vocational courses

—The Seminar felt that while in some States some guide-books and other materials have been developed no such efforts have been made to provide suitable instructional materials to vocational students in other States

The Seminar, therefore, recommended that suitable instructional materials may be made available to the students and that these should be prepared in consultation with teachers. It further recommended that NCERT should undertake the preparation of model materials besides providing guidelines for the States to develop instructional materials as per their needs.

**4.2** The Seminar discussed the General Foundation Course proposed by the Adiseshiah Committee and noted that no State has implemented this course in the present form but in some states components have been attached to certain vocational courses. The Seminar also noted that there are variable pattern of streaming and curriculum design prevailing in different States.

—The Seminar also noted that at times the provision of options for the entry of students in general degree courses goes to negate the major

objectives of vocationalization programme which is supposed to be largely terminal in character.

—The Seminar discussed in detail the proportion of time allocated to vocational courses and observed that these vary a great deal and in some States the quantum of time for vocational component is grossly inadequate.

On the basis of the above, the Seminar recommended that each vocational course should be designed in an integrated form comprising the vocational skills, theory, related subjects and the elements of the General Foundation Course recommended in the "Learning to Do" which may be vocation specific related. The seminar emphasised that such courses should be framed on the basis of job requirements and job analysis with the built-in feature of on-the-job training. The whole vocational component thus formed must receive not less than 80% of the total time in two-year courses in order to be really effective. In this regard the Seminar suggested that the question of instructional materials should be looked into in greater details by Working Group of the NCERT constituted for this purpose.

## **5. Wider Implementation, Rural Orientation and Other Issues in Implementation**

5.1. The Seminar noted that the expansion of vocationalization of education, with the exception of Tamil Nadu, has remained so far confined to a very small number of institutions in different States and that the implementation has not proceeded at the same pace as recommended in "Learning to Do". The seminar noted that the extension of vocationalization in rural institutions is still to be attempted on a cognizable scale.

—The Seminar received some view-points about the problem of vocational education for girls.

—The Seminar diagnosed that the lack of publicity and public awareness was an important factor in this regard.

5.1.1 The Seminar recommended that SCLRTs should be entrusted with the task of development of publicity materials and dissemination of ideas. The work should be organized in collaboration with NCERT and its field offices.

**5.1.2** The Seminar also recommended that steps should be taken to monitor the progress and expansion as per the target set out in various national documents on the subject.

**5.2** The Seminar considered the question of duplication and over-lap of courses with those offered by ITIs, Polytechnics and other institutions and endorsed the recommendation of the "Learning to Do" for avoiding the duplication and overlap with the work of such agencies

**5.3** The Seminar reviewed the work being expected of the NCERT through its Unit at Delhi, RCEs and Field Offices and concluded that NCERT has been entrusted with various types of work relating to vocational surveys, teacher training, publicity, dissemination, and orientation of functionaries, evaluation, research, clearing house functions, model instructional materials development and over all functioning as a national resource centre

In view of the above the Seminar especially recommended that the functioning of various constituent units of NCERT, RCEs, and Field Offices should be properly oriented to reflect the recorded priority concern of vocationalization of higher secondary education. In this regard it was further resolved that the concerned functional units of NCERT should be adequately strengthened both in quality and number to meet the demands placed by various recommendations of the Seminar

## **6 Employment, Apprenticeship and Vertical Mobility**

**6.1** The Seminar noted that the efforts to provide employment, both wage and self, to the products of the vocational stream has not been systematically approached by many of the States

—The Seminar also noted that only in some situations a few steps have been taken to modify the recruitment rules and to delink the degrees from certain jobs. Further, the question of recognition and equivalence of courses also has not been given due consideration which is causing some unpopularity of the scheme amongst the students

The Seminar, therefore, endorsed all the recommendations of the "Learning to Do" on all aspects related to employment apprenticeship and vertical mobility of students. It further recommended that State Directorate concerned with vocationalization of education should take

speedy and effective steps to create wage employment opportunities, set up agencies to assist and guide in self-employment venture, delinking of degrees with certain types of jobs, review and revise the recruitment rules, accord recognition and establish equivalence of courses to ensure employment to the products and consequent by the success of the programme.

**6.2** The Seminar felt that the question of vertical mobility of students in their chosen vocations is not being interpreted in its proper perspective. In this regard the seminar was of the opinion that while ensuring vertical mobility, the mobility of the students in their own vocational areas should be ensured rather than entry into the general courses at the degree level.

Therefore, the Seminar recommended that suitable courses must be introduced at the degree level for proper vertical mobility of students in their chosen vocations.

The Seminar further recommended that the State Directorate should take up the matter with the universities in their States. Further the UGC should also take necessary steps to expedite action on this.

The Seminar also resolved that for admission into such courses the vocational products of the higher secondary stage should be preferred.

**6.3** The Seminar felt that the extension of the Trade Apprenticeship facilities to the products of the vocational stream was a welcome decision but stressed that much more may have to be done since the vocational students are in a class by themselves, much different than the candidates for the Trade Apprenticeship.

—The Seminar noted that not much has been done about the extension of technician apprenticeship for the vocational products though the rules permit it.

**6.3.1** The Seminar, therefore, strongly recommended that further steps should be taken to extend the Technician Apprenticeship to the vocational products as permitted by the rules at present.

**6.3.2** It further recommended that suitable legislation may be formulated and introduced, if necessary, to extend proper apprenticeship training to vocational students, even if it has to be of a distinct type, since this will ensure better chances of success for the school vocational education to meet its stipulated aims and goals.

6.4 The Seminar was concerned about the public demands from the parents and the students for entry into the institutions of general education. Such demands are often made regardless of the merit of the students and the option of the vocational courses is used as a leverage to provide some special paths for such an end. The Seminar felt that often such demands are not in conformity with the expected goals of vocationalization of education.

The Seminar, therefore, recommended that public demands for entry of vocational students into colleges, professional institutions through reservations of seats and false incentives should be carefully screened vis-a-vis the aims of vocationalization of education before being acceded to. Any move which may seem to be contrary to the stipulated goals of the Indian Education Commission and other policy resolutions may be carefully avoided.



# Annexures





## ANNEXURE I

# Summary of Recommendations

### 1 Administration

1.1 To implement vocationalization of higher secondary education the State Governments should constitute independent Directorates of Vocational Education. However, if an independent Directorate cannot be formed the implementation may be entrusted to an official in the Education Directorate who should be of the rank not lower than the Additional Director nominated exclusively for this purpose and vested with adequate authority needed for effective implementation

1.2 The existing agencies conducting the examinations for the higher secondary/junior college/intermediate stage may continue to conduct the examinations for the vocational courses also. For this purpose the boards should be adequately strengthened with personnel and funds keeping in view the special requirements of evaluation in these courses. It was felt that the number of students appearing for a course would be a

### 2 Vocational Surveys

2.1 The NCERT should convene a meeting of the officers concerned with district vocational surveys to resolve the issues and problems in this area. This meeting should revise the survey guidelines, schedules and statements on the basis of the experiences gained. It was further resolved that a comprehensive handbook for conducting vocational surveys should be prepared and made available to the States.

In conducting such surveys employment exchanges, principals, teachers, experts, etc. in the area should be contacted for gathering information

2.2 The NCERT should organize more programmes for orienting survey workers and officers and selected research projects in this area may be assisted by NCERT.

2.3 While conducting the district vocational surveys proper linkages may be established with the recently constituted District Man-power and Employment Generation Councils wherever possible.

2.4 The Seminar endorsed the earlier recommendations that the selection of courses, their content and the choice of institutions should be based on vocational surveys but resolved further that till such surveys are completed vocational courses may be introduced on a limited scale on the basis of the commonly felt needs and on consideration of the chances of their success as a measure of prudence in the initial phases.

### 3 Teacher selection and employments .

3.1 The qualifications and salary scales for vocational teachers should be given due consideration by the States. It was felt that persons with lesser academic qualifications but with good practical background may be posted in PGT scale.

3.2 In selection of part-time teachers their communication abilities should be given due consideration along with their competence in practical skills.

3.3.1 For the in-service training of vocational teachers the facilities available at existing training institutions under the ministries of labour and education such as ITIs, CTIs, TTTIs, Polytechnics etc. should also be utilised.

3.3.2 The Regional Colleges of Education of NCERT should be called upon to play a very special role in the training of vocational teachers. They should utilize their available expertise to study systematically the need for regular teachers in their regions at least in some fairly common courses and institute pre-service and in-service courses on the basis of such findings. However, specific proposals or requests from respective State Governments in this regard would greatly facilitate the work of RCEs.

3.4 The sphere of action of RCEs may not be restricted to particular regions only. There may be national courses as well at the post-graduate

level where students from all over the country may be drawn. These may be model courses for the guidance of States.

**3.5** The State Government may take timely steps for teacher preparation through pre-service courses to meet the projected needs of vocational teachers.

**3.6** In appreciation of the special requirements of vocational studies and recognising also the fact that the cost per student in these courses would be higher than other conventional courses, adequate financial provisions would be called for to meet the needs of these courses.

#### **4 Curriculum Design and Instructional Materials**

**4.1** Suitable instructional materials must be made available to the students and these should be prepared in consultation with the teachers. After studying the work done by various States in the area of instructional materials the NCERT should undertake the preparation of model materials and provide guidelines to the States for developing instructional materials as per their needs.

**4.2** Each vocational course should be designed in an integrated form comprising the vocational skills, theory, related subjects and the elements of the General Foundation Course recommended in Learning to Do which may be vocation specific related. Such courses should be framed on the basis of job requirements and job analysis with the built in feature of on-the-job training. The whole vocational component thus formed must receive not less than 80% of the total time in a two year course in order to be really effective. The question of instructional materials should be looked into in greater details by the Working Group of NCERT constituted for this purpose.

#### **5 Wider implementation and rural orientation**

**5.1.** Steps must be taken to expand vocationalization of education to reach those segments of population which have remained so far untouched. In this respect it was resolved that there is a need to extend the benefits of vocational education to rural youth and girls where it has tremendous potential for success.

**5.2.1** The Seminar recommended that the SCERTs should be entrusted with the task of the development of publicity materials and dissemination.

of ideas. The work should be organized in collaboration with NCERT and its field offices.

**5.2.2** Steps should be taken to monitor the progress and expansion as per the targets set out in various national documents on the subject.

**5.3.** The Seminar endorsed the recommendations of the Learning to Do for avoiding the duplication of and overlap with work of other agencies such as IITs, Polytechnics, para-medical institutions etc

**5.4** The Seminar entrusted the NCERT with various work relating to vocational surveys, teacher training, publicity, dissemination and orientation of functionaries, evaluation, research, clearing house functions, model instructional material development and over-all functioning as a national resource centre. As such it specially recommended that the functioning of various constituent units at NIE RCFs and Field Offices should be properly oriented to reflect the recorded priority concern of vocationalization of higher secondary education. In this regard it was further resolved that the concerned functional units should be adequately strengthened both in quality and number to meet the demands placed by various recommendations made by the Seminar.

## **6. Employment, Apprenticeship and Vertical Mobility**

**6.1.** The Seminar endorsed all the recommendations of the Learning to Do on all aspects related to employment, apprenticeship and vertical mobility of students. It further recommended that the State Directorate concerned with vocationalization of education should take speedy and effective steps to create wage employment opportunities, set up agencies to assist and guide in self-employment ventures, delinking of degrees from certain types of jobs, review and revision of recruitment rules, accord recognition and establish equivalence of courses to ensure employment to the products and consequently the success of the programme.

**6.2.** Suitable courses must be introduced at the degree level for proper vertical mobility of students in their chosen vocations. The Seminar further recommended that the State Directorate should take up the matter with the universities in the State. The University Grants Commission should also take necessary steps to expedite action on this. It was further resolved that for admission into such courses the vocational students of the higher secondary stage should be preferred.

6.3.1. In addition to the Trade Apprenticeship facilities recently extended to the students of the vocational stream further steps would still be necessary to extend the Technician Apprenticeship to these students for which the rules presently provide for

6.3.2. Suitable legislation may be formulated and introduced, if necessary to extend proper apprenticeship training to vocational students even if it has to be of a distinct type since this will ensure better chances of success for the school vocational education to meet its stipulated aims and goals.

6.4. The public demands for entry of vocational students into colleges, professional institutions through reservation of seats and false incentives should be carefully screened vis-a-vis the aims of vocationalization of education before being acceded to. Any move which may seem contrary to the stipulated goals of the Education Commission and other policy resolutions may be carefully avoided.

## ANNEXURE II

# Agenda

Agenda Item 1 : Registration

2 : Inauguration

3 : Adoption of Agenda

4 : Presentation of State reports and discussion

i) Andhra Pradesh

ii) Delhi

iii) Gujarat

iv) Karnataka

v) Maharashtra

vi) Tamil Nadu

vii) West Bengal

S Resolving the Administrative issues

(Background paper VIU/NS-81/A-1)

6 Review and prospects of District Vocational Surveys

(Background paper VEU/NS 81 S-1)

7 : Steps for teacher preparation

(Background paper VEU/NS-81/T-1)

8 Problems in Curriculum Design and Development

(Background paper VFU/NS-81/C-1)

9 : Resolving other issues in implementation

(Background paper VIU NS-81/O-1)

10 : Resolving the issues in regard to recognition of courses, continuing education, employment prospects, apprenticeship etc

(Background Paper VEU/NS-81/FS-1)

11 : Final review of recommendations & Guidelines developed in course of the seminar and their adoption

12 : Closure of the Seminar

### ANNEXURE III

## Programme Schedule

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Time	Wednesday 9th	Thursday 10th	Friday 11th
9 30 a.m	Item 1		
10 30 a.m.	Item 2	Item 6	Item 9
11:15 a.m.	Coffee	Coffee	Coffee
11.30 a.m	Item 3, 4	Item 6	Item 10
1:30 p.m.	Lunch	Lunch	Lunch
2 30 p.m.	Item 4	Item 7	Item 11
3:45 p.m.	Tea	Tea	Tea
4 00 p.m.	Item 4	Item 8	Item 12
5 00 p.m.	Closure of the Session	Closure of the Session	Closure of the Seminar

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## ANNEXURE IV

# Aims And Objectives

### AIMS

- a) To share experiences of the implementation of the Vocationalization of Education programme, particularly with a view to identifying the problems that have been encountered;
- b) To develop guidelines and a plan of operation for the implementation of the programme, and
- c) To consider ways and means of the training of teachers for vocational courses

### OBJECTIVES

1. To review the progress made by the States of West Bengal, Karnataka, Tamil Nadu, Gujarat, Maharashtra, Andhra Pradesh and Union Territory of Delhi and Pondicherry in terms of
  - Number of courses introduced year-wise
  - Nature of courses introduced year-wise
  - Enrolment in different courses year-wise and boys/girls distribution
  - Number of institutions introducing vocational courses year-wise and urban/rural distribution
  - Number of students appeared in the final examination, course and year-wise

- Number of students passed, course and year wise, drop-out percentage
  - Number of students admitted to higher academic/professional institutions.
  - percentage of students wage or self-employed
2. To ascertain the difficulties faced by the above States in implementing the scheme of Vocationalization and their present thinking in terms of ,
- Proper selection of courses
  - Development and revision of appropriate syllabi
  - Proper selection of institutions
  - Proper selection of students
  - Providing practical training
  - Suitable instructional materials
  - Appointment of suitable teachers, pre-service and in-service training of teachers
  - On-the-job training
  - Vertical mobility
  - Examination pattern
  - Recognition by the Government Departments
  - Placement of students (wage or self employment)
  - Duplication and overlap of courses with other chain of institutions
  - Financial strains
  - Existing administrative set up.

recommend suitable measures to solve the above problems faced by the States by mutual discussion based on their experiences

ascertain the stage of implementation by other States in terms

Setting of proper administrative machinery for the implementation of the scheme

Provision of necessary budget

Preparation, conduct and utilization of District Vocational Surveys, number of districts completed, number of districts in progress, number of reports published and future plans etc

Orientation of the staff involved in the scheme of vocationalization

Development of the curricula for the proposed courses

Identification of the institutions

work out the guidelines and a model action plan for the states aiming to implement the scheme of vocationalization in the near future

work out a system of national monitoring, evaluation and documentation for the vocationalization of higher secondary education

recommend ways and means to lay down a national standard courses with similar objectives and scope in different States to facilitate recognition for apprenticeship and recruitment

explore the possibility of vertical mobility of students passing of the vocational courses in higher professional institutions by offering new courses in certain areas.

## **ANNEXURE V**

### **Participants**

1. Prof Shib K. Mitra, Director, NCERT
2. Dr T N. Dhar, Joint Director, NCERT.
3. Shri S Satyam, Joint Secretary, Ministry of Education & Culture  
New Delhi.
4. Shri O. P. Baru, Joint Director (Training), J & K.
5. Prof Saifuddin Soz, Secretary, J & K Board of School Education,  
J & K.
6. Dr. (Mrs ) Rajammal P Devadasi, Director, Sri Avinashalingam  
Home Science College for Women, Coimbatore, Tamil Nadu.
7. Shri V A. Sivagnanam, Joint Director of School Education, Madras,  
Tamil Nadu
8. Shri Shib Shankar Das, Secretary, Bihar Intermediate Education  
Council, Bihar.
9. Prof. M.A.M. Gilani, Chairman, Bihar Intermediate Education  
Council, Bihar.
10. Shri Ramayan Singh, Deputy Director of Education, Directorate of  
Education, Allahabad, U.P.
11. Shri Sudhakar Sharma, Addl. Director of Education, U.P.
12. Shri S.B. Biswas, Deputy Director of Education, Agartala, Tripura.

13. Shri M.S. Tyagi, Principal, Govt Hr Sec School, Promdilag, Arunachal Pradesh.
14. Shri K.G. Bijawat, Deputy Director of Education, Directorate of Education, Bikaner, Rajasthan
15. Shri S Raghavendra Rao, Director, Vocational Education, Bangalore Karnataka
16. Shri H R Aggarwala, Asstt. Director of Education, Himachal Pradesh
17. Dr. G.N. Talukdar, Deputy Director of Public Instruction, Assam
18. Prof. H.K. Misra, Officer on Special Duty, Higher Secondary Education, Orissa, Bhubaneswar.
19. Dr. B. C. Sen, Deputy Director of Secondary Education, West Bengal
20. Dr. Vasudev, Director of Technical Education, Kerala, Trivandrum.
21. Shri J.M. Dhand, Director of Public Instruction, Union Territory, Chandigarh
22. Shri Mannohan Singh, Deputy Director (Vocationalization) Deptt. of Education, Punjab
23. Shri K.M. Gedam, Director of Training and State Apprenticeship Adviser, Govt. of Maharashtra, Bombay
24. Shri D.M. Pimpalkhute, Deputy Director (Engineering), Education Employment Department, Govt. of Maharashtra, Bombay.
25. Shri K.L. Narasimham, Joint Secretary, Board of Intermediate Education, Andhra Pradesh.
26. Shri C. Lalmuana, Secretary, Mizoram Board of School Education Aizawl.
27. Shri Simkima Khawalhring, Dy. Director of Education, Mizoram, Aizawl.
28. Shri P.K. Laheri, Director of Education, Gujarat.

29. Shri W.C. Arora, Subject Specialist, SCLRT, Gurgaon, Haryana
30. Shri G.C. Vats, Director, SCLRT, Delhi
31. Shri B.P. Singh, Sr. Sec. Counsellor, Directorate of Education, Delhi
32. Shri R.N. Sharma, Senior Counsellor, Deptt. of Education, Delhi
33. Dr. P.D. Shukla, Former Jt. Ld. Adviser to Govt. of India, Ministry of Education & Culture, New Delhi
34. Shri K. Vaidyaraman, Jt. Director (Training), Ministry of Labour, New Delhi
35. Shri A.S. Ahluwalia, Education Officer (VF), Ministry of Education & Culture, New Delhi
36. Dr. (Mrs.) S. Malhan, Director, Institute of Home Economics, South Extension Pt. I, New Delhi
37. Shri R.S. Uppal, Sr. Research Officer (Education), Yojana Bhawan, Parliament Street, New Delhi.
38. Dr. J.S. Rajput, Principal, RCI, Bhopal
39. Dr. (Mrs.) K.I. Singh, Principal, RCI, Mysore
40. Dr. G.B. Kanango, Principal, RCI, Bhubaneswar.
41. Shri S.B. Maheshwari, Reader, RCI, Ajmer
42. Dr. A.K. Sacheti, Reader, VIU, NCERT.
43. Dr. P. Raizada, Reader, VIU, NCERT
44. Shri A.P. Verma, Reader, VIU, NCERT
45. Shri C.K. Misra, Reader, VIU, NCERT
46. Dr. A.K. Dhote, Lecturer, VIU, NCERT
47. Dr. M. Sen Gupta, Lecturer, VIU, NCERT,
48. Shri D.R. Dua, Lecturer, SUPW Unit, NCERT.
49. Dr. A.K. Mishra, Professor & Head, VIU, NCERT— Convener.

**Assistance**

- 50 Shri K L. Malik, Superintendent, VEU, NCERT.
51. Shri M Rochlani, S.A VEU, NCERT.
52. Shri B.R. Mehta, P.A., VEU, NCERT
- 53 Shri P.N A Kamath, Stengorapher, VEU, NCERT
- 54 Shri Surendra Singh, UDC, VEU, NCERT.
55. Shri Vijay Kumar Sharma, IDC, VEU, NCERT.
- 56 Miss Kamal Sharma, LDC, VEU, NCERT.
- 57 Shri Bhupesh Mathur, LDC, VEU, NCERT.
- 58 Shri Nek Ram, Peon, VEU, NCERT
- 59 Shri Krishan Chander, Peon, VEU, NCERT.





# Appendices

## State Reports



## APPENDIX I

### Vocationalization of Education in Gujarat State

With introduction of new pattern of education of 10 + 2+3 in education, it was visualised to provide for Vocational, Technical and Career Development courses for 50% of those who passout S S C. examination.

In 1976, the number of students passing out of S S C. was 65,000 approximately but the same has now gone up to almost 2 lakh students. The Government of Gujarat had a facility to provide training for employment to about 23,000 students in 1976. The same has now been expanded to cover 40,000 students.

The approach of the State Government has been encourage various consumer departments to frame schemes for training and skill formation to enable young S S C students to go in for practical training and skills useful for employment. The Government of Gujarat has in 1981 formulated a proposal to co-ordinate training facilities for skill formation in the State. The Director of Employment and Training, Director of Education, Director of Technical Education and Director of Cottage Industries were asked to workout a joint proposal for co-ordinating training efforts in the State. The State Government is keen to expand and strengthen the infrastructure facilities for trainees in the following way

- (a) The State Government has decided to make optimum use of III level courses as the demand for skilled technicians in the industrial units has been going up from steadily. There is no un-employment in this category. The efforts are also being made to utilise technical schools and training centres of industries department by introduction of I T I level courses in them. Such arrangement would encourage greater utilisation of the existing resources to turnout skilled persons for whom the possibilities of employment are very bright.

- (b) The State Government has encouraged the department of industries and other training establishments of various departments to expand training facilities in rural areas, especially in tribal sub-plan areas. The State Government is also making adequate candidates belonging to additional provision for stipend and other incentives for Scheduled Caste, Scheduled Tribes and other backward classes.
- (c) The State Government has also completed a survey of demands from various districts. The gap in the demand and the availability of skilled persons is being met by introduction of various career development courses under the auspices of the Director of Training and Employment. Since there is a link up between the training and employment, the courses are very successful and popular.
- (d) The Director of Training and Employment has also expanded the apprenticeship scheme by increasing the seats and covering new trades. It has also taken special measures to set up mini ITI's in tribal talukas of the State. The benefits of industrial employment are made available to the weaker sections and the backward areas as are the vulnerable sections and educationally & economically under-developed.
- (e) The Education Department, in the past, sanctioned 32 courses to be run by the private agencies. The experience of the Government with private agencies has not been very happy. The State Government is now, therefore considering to encourage multi-purpose schools to introduce terminal courses at +2 stage, in Agriculture, Animal Husbandary, Technical Trades, Home Science, Office Administration, Fine Arts, Tourism, Hotel Management etc. There are 200 secondary schools with infrastructure facilities and staff for taking up the above subjects. It is also proposed to sanction these courses on the basis of estimated requirements from each district.

The grant-in-aid rules will also be modified to include these courses at school level. In the year 1982-83 4000 students would be offered such courses which will enable them to find employment on completion of +2 stage.

The main feature of vocationalization of education in Gujarat has been to encourage all departments of the Government to under-

take this work. The rise in the number of students has been so rapid that it is impossible to create facilities for vocational courses for 50% students within the school premises or framework. It is, therefore, decided that all departments of the Government, especially the consumer departments must pay special attention to the training programme and provide facilities and funds within their five year plan programme. The effort of the State Government are yielding fruits as demand for admission to such courses has exceeded the available seats by three to five times. It is also encouraging to note that the concerned departments have been able to provide placement to 80-82% of the students passing out such courses. The level of training and evaluation have been maintained to ensure the quality of the trainees and acceptability by the employers. Some courses provide for self employment opportunities also. The Department of employment has planned to provide for training facilities to 60,000 persons in the year 1982-83. This will account for 30% of the 2 lakh students likely to pass S S C examination in the year 1981-82. The State Government is very keen that by the end of sixth five year plan, we are able to create training facilities to 50% of the students who pass their S.S.C. Examination.

## APPENDIX—II

### Progress of Vocational Education at The Plus Two Stage in Karnataka

#### 1. Number of Courses Introduced—Year-wise

Year	No. of Courses introduced
1977-78	51
1978-79	61
1979-80	40
1980-81	3
1981-82	30

All the courses introduced from the beginning have not continued to today. In some of the institutions the courses were closed due to non-availability of students for those particular courses introduced. Accordingly, every year few courses were closed and some more courses were introduced in other institutions. Thus, for the present during the year 1981-82 there are 158 courses running.

#### 2. Nature of Courses Introduced—Year-wise :

	77-78	78-79	79-80	80-81	81-82
(1) Agricultural Vocations	5	5	7	1	5
(2) Engineering & Technical Vocations	4	5	7	2	2
(3) Textile based Vocations	—	2	1	1	1
(4) Teacher Education	—	2	1	1	1
(5) Medical—Laboratory Technology	7	2	2	—	1
(6) Commerce & Business related courses	6	7	2	—	2

**3 Enrolment in different Courses—Year-wise ,**

A statement is enclosed

**4 Number of Institutions Introducing Vocational Courses Year-wise .**


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Year	No. of Institutions	
	Urban	Rural
1977-78	7	6
1978-79	10	22
1979-80	20	18
1918-81	2	2
1981-82	6	16

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**5. Number of Students appeared in the final Examination Courses & Year-wise**

A Statement is enclosed,

**6 Number of Students passed Course & Year-wise Drop-out, Percentage**

Statement is enclosed

**7. Number of Students Admitted to Higher Academic/Professional Institutions .**

No facilities of higher education have been provided on the technical education side. However, facilities for higher education on the academic side have been provided for students passing the Pre-University examination with vocational subjects. For the present students passing Pre-University examination with vocational courses desirous of continuing further study on the academic side are permitted to join first year B.A. Degree classes on the analogy of Pre-University science students being admitted to the B.A. degree classes. The students of commerce group are admitted to I Year B.Com. Statistical data about this are not available.

However, on the basis of observations made by the field officers from time to time, about 25% of the students join the degree classes on the academic side

The Universities are now thinking in terms of withdrawing of such facilities for higher general education. We have been however, requesting University authorities to continue such facilities for some more time till the objectives of the same are properly understood by the public and till ample opportunity for jobs becomes available and also till vertical mobility is provided in the concerned trade

#### **8. Percentage of Students Wage or Self Employed :**

The statistics are not available in this matter. However, on the basis of observation made by the officers of the Deptt. It is seen that the desire for self-employment is growing among the student community and students passing the Pre-University Examination with vocational subjects are going to several profession of their own, like Agriculture, Horticulture, Sericulture, Business and other commercial enterprises. The percentage of such students is estimated to be about 40%, remaining 35% of students desire to seek employment.

#### **9. Proper Selection of Courses :**

Courses are normally selected on the basis of the survey conducted in this behalf. Besides this, the representation of the local people is also taken into consideration while allotting a course. The prospectus of self-employment and job opportunities are also taking into consideration while selecting the course for a particular area

#### **10. Development and Revision of Appropriate Syllabi :**

Government through their orders, from time to time, have issued instructions for constitution of Syllabus Committee consisting of experts from different fields. Syllabus Committee takes into consideration the level of students to prosecute studies and subjects required to be included in the syllabus for preparing the students for middle level management. Maximum number of hours to be utilised in each week and duration of



two years is also kept in view while including the subject and working out the teaching details. 30% of the time is allotted for languages and in remaining 70%, 40% is devoted for practical and 30% for theory.

### **11 Proper Selection of Institutions :**

The institutions who have got enthusiasm to start vocational courses and also who have got building, furniture, library, staff and other facilities are selected for starting the vocational courses. Particularly for starting of technical courses, availability of qualified staff on part time basis in that place or nearby places is taken into consideration. Besides, laboratory facilities also should be available in that institution. Similarly, facilities for practical training also should be available in that place or nearby places.

### **12 Proper Selection of Students :**

The minimum qualification for admission to first year P.U.C. is a pass in SSLC or equivalent examinations. At the time of admission, the students are made to understand the significance of the scheme and after that if any aptitude is found in the students they are admitted for such courses.

### **13. Providing Practical Training**

There is intensive training programme prescribed in the syllabus of each course and the period of such course depends upon the requirement of each course, it ranges from two weeks to 12 weeks. For this purpose, the students are taken to different industrial organisations, banks etc.

### **14. Suitable Instruction Materials :**

For the present, instructional material is notes given by the lecturers and the list of reference books given to the students. There are no any separate text books to these courses. The students are expected to study the relevant chapters in the books on particular subject. Required guidance is given by the lecturers to the students.

### **15 Appointment of suitable Teachers, Pre-Service and In-Service Training of Teachers :**

Provision has been made for the appointment of full-time and part-time teachers. These courses are run mostly by appointing teachers on part-time basis. The appointment of full-time teachers leads to the problem of safe-guards of their services. Even full-time appointment is made on temporary basis. The appointment of part-time lecturers is preferred as far as possible. However, full-time appointments are also made but such teachers leave the job and go whenever they got permanent jobs elsewhere. There is no system of pre-service training to these teachers as the recruitment is not on regular and permanent basis. However, training is arranged to in-service persons with the help of NCERT Delhi.

### **16 On the Job Training :**

The students are made to work in the field of agriculture and allied courses. Similarly in Engineering courses they are taken to the work site and industrial units and are given practical training. Some times, they are engaged to do certain jobs.

### **17 Vertical Mobility :**

There is no vertical mobility provided on the technical side. However, facilities for general education have been provided for the students passing Pre-University Education with vocational subjects. If any student after studying vocational subject for two years desires to join degree classes, he is permitted to do so on the analogy of science students being admitted to I Year B.A. degree classes. Very few students of vocational side join general education after completing Pre-University Examination with vocational subject. There should, however, be facilities for vertical mobility in the concerned trade.

### **18 Examination Pattern :**

The course is of two years duration with four semesters each semester having a duration of four months with 2 months holiday in between. First and Third Semester Examinations are class Examinations and Second and Fourth Semester Examinations are public examinations. There is competi-

through internal assessment. Language subjects are of one paper each and vocational subjects consists of six to ten papers including theory and practicals. The minimum percentage of marks for a pass is 40% for theory & 50% for practical. For languages it is 35%. Attendance required for a student is 75%.

#### **19 Recognition by the Government Department**

The Government of Karnataka have taken up the matter with all the heads of departments for amendment of cadre and recruitment rules in order to provide job opportunities to the students passing the Pre-University Examination with Vocational Subjects. Few Departments have already made amendments to the Recruitment Rules and have provided job opportunities. Many other Departments have yet to finalise the amendment to their recruitment rules.

#### **20 Placing of Students (Wage or Self-Employment)**

Statistics in the matter are not available. However, as per the observations of the officers of the Department, 40% students go in for self-employment. One Nationalised Bank i.e. Canara Bank has come forward to finance the students desirous of starting self-employment projects.

#### **21 Duplicate and Overlapping With Other Courses**

There are several institutions offering vocational studies like polytechnics, I.T.I.s, etc. Since the vocational education at plus 2 stage intends to prepare the students for middle level management, there should not be parallel level of organisation. There should be lower level technicians, middle level technicians and higher level technicians. Engineering Colleges serve higher level purposes. I.T.I.s provide manpower for lower level technician cadre. However, the vocational courses at the present +2 level seems to be a duplication of the polytechnic courses. The matter, therefore, requires detailed probing.

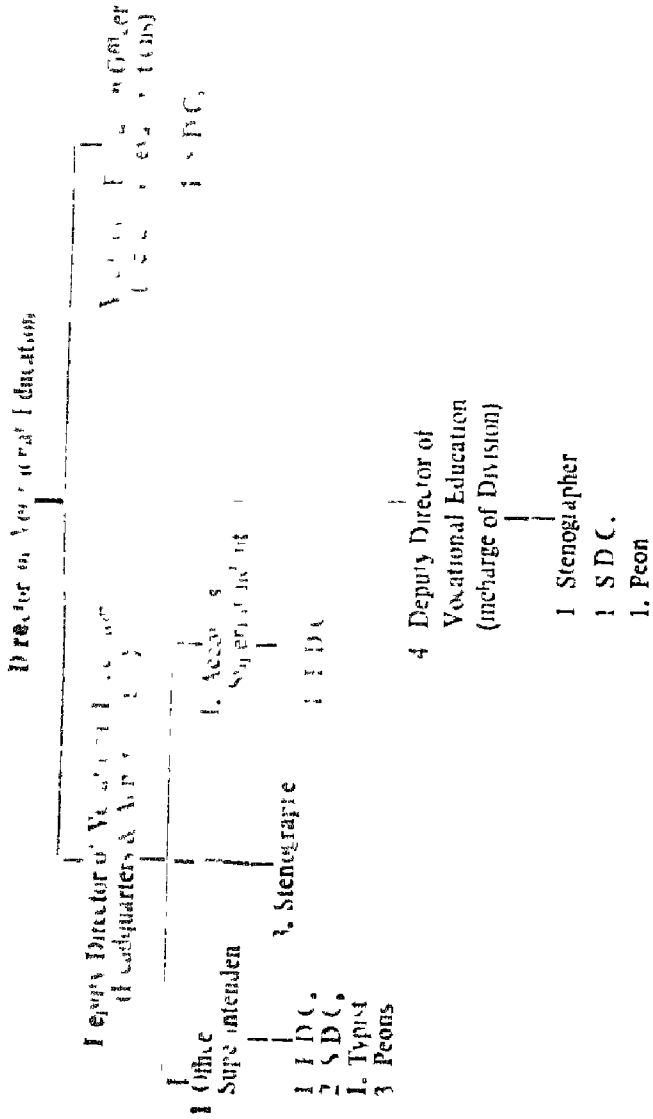
#### **22 Financial Strains**

For the year 1981-82 the budget allotment is given below

Plan	Non-plan
Rs. 48 lakhs	Rs. 5.20 lakhs

23. Existing Administrative set up,  
Statement enclosed.

## DEPARTMENT OF VOCATIONAL EDUCATION



OFFICE OF THE DIRECTOR OF VOCATIONAL EDUCATION · KARNATAKA  
BANGALORE 560001

Nature of Vocational Courses Introduced

Engineering & Industry	Agriculture	Para Medical	Commerce	Education
1	2	3	4	5
1977-78				
1. Building Construction Technology	1. Dairying	1 Laboratory Technician	1 Servicing Technology	—
2 Electrical Wiring & Servicing of Electrical Appliances	2 Sericulture	2 Physio Therapy Occupational & Therapy Technician	2 Material Mana- gement Techno- logy	—
3. Clock & Watch Repair Technology	3 Fisheries	3 X-Ray Technician	3 Banking	—

1	2	3	4	5
4 Photography	4 Pesticides Fertilizers & Weedicides	4 Medical Record Technician	4 Accountancy & Taxation	—
	5 Co-operation	5. Optician & Refractionist	5 Accountancy & Auditing	
		6 Multi-purpose Basic Health Worker (Male)	6 Accountancy & Costing	
		7 Psychiatric Assistant		
Engineering & Industry	Agriculture	Para Medical	Commerce	Education
1978-79				
1. Electrical Wiring & Servicing of Electrical Appliances	1 Sericulture	1 Laboratory Technician	1 Banking	1 Primary Education
2. Bldg Construc- tion Technology	2 Agricultural Economics & Farm Manage- ment	2 X-ray Technician	2 Account- ancy & Auditing	2 Pre- school Educa- tion

1	2	3	4	5
3. Textile Technician	3 Pesticides, Weedicides & Fertilizers		3 Accountancy & Taxation	
4. Clothing & Embroidery	4 Dairying			
5. painting & Commerical Arts	5 Co-operation		4 Accountancy & Costing	
6. Sugar Technology			5 Material Management Technology	31
			6 Salesmanship	

Engineering & Industry	Agriculture	Para Medical	Commerce	Education
<b>1979-80</b>				
1 Electrical Wiring & Servicing of Elec Appliances	1 Dairying	1 Medical Record Technician	1 Accountancy & Auditing	1. Pre-School Education
2 Clothing & Embroidery	2 Sericulture	2 X-Ray Technician	2 Accountancy & Taxation	
3 Printing & Book Binding	3 Horticulture			
4 Painting & Commercial Arts	4 Poultry Science			
5 Bldg Construction Technology	5 High Yielding Crop & Seed Production			



1	2	3	4	5
6, Foundry & Pattern Making	6 Plantation Crops & Management			
7 Assembly & Servicing (Ele.)	7 Co-operation			
8 Automobile Servicing				

Engineering & Industry	Agriculture	Para Medical	Commerce	Education
1980-81				
1 Painting & Comm. Arts	1 Sericulture	....	.	1 Pre-School Education
2. Clothing & Embroidery				
3 Electrical Wiring & Servicing of Ele Appliances				
1981-82				
1 Sugar Technology (Panboiling)	1. Co-operation 2 Sericulture	1 Laboratory Technician	1. Banking 2 Accountancy & Auditing	1 Pre-School Education
2 Electrical Wiring & Servicing of Ele. Appliances	3. Agricultural Economics & Farm Management 4 Horticulture			
3 Clothing & Embroidery	5 Dairying			

**Office of the Director of Vocational Education**  
**Karnataka : Bangalore-1**

**Statement of Students Appeared in the final Examination**  
**and No of Students Passed Course & Year Wise**

Sl No	Code No	Name of the Vocational Course	1979		1980		1981	
			Apprd	Pass	Apprd	Pass	App	Pass
2	3		4	5	6	7	8	9
1	TE 1 01	Bldg Contn, Technology	86	60	118	62	173	98
2	TE 1 02	Bldg. & Road Contn Technology						
3	TE 2 01	Servicing Technology	34	18	45	28	5	—
4	TE 2 03	Automobile Servicing	—	—	—	—	—	—
5	TE 3 01	Ele Writing & Servicing of Ele. Appliance	137	93	277	172	350	201
6	TE. 6 01	Clock & Watch Repair Technology	26	18	28	18	22	18
7	TE 7,01	Photography	16	11	5	3	1	—
8	TE. 7.02	Painting & Commel Arts	—	—	17	10	25	10
9	TE 8 02	Clothing & Embroidery	—	—	48	36	102	72

1	2	3	4	5	6	7	8	9
10	TE 101	Printing & Book Binding	—	—	8	3	43	9
11	TE 102	Textile Technician	—	—	24	15	25	10
12	TE 104	Textile Technology	—	—	24	12	14	14
13	AG 101	Physics Science	—	—	—	—	4	2
14	AG 102	Dairy Farming	—	13	65	44	63	34
15	AG 103	Soil Science	3	10	119	13	24	97
16	AG 104	Fishing	32	—	1	—	5	12
17	AG 105	Co-operation	45	20	51	50	104	67
18	AG 106	Pesticides Fertilizers & Weedicides	43	25	51	32	64	31
19	AG 108	Plantation Crops & Farm Management	—	—	—	—	13	45
20	AG 109	Agricultural Economics & Farm Management	—	—	57	41	13	6
21	AG 110	Horticulture	—	—	—	—	9	1
22	AG 111	High Yielding Varieties & Seed Production	—	—	—	—	20	11
23	HE 101	Laboratory Technician	34	15	30	12	32	20
24	HE 102	Rehabilitation Therapy Assistants	30	4	—	—	—	—

1	2	3	4	5	6	7	8	9
25	HE 1. 03	X Ray Technician	4	3	36	25	56	18
26	HE 1 04	Medical Record Technician	19	11	24	15	26	7
27.	HE 1 05	Optician & Refractionist	4	4	—	—	13	10
28	HE 1 06	Multi-purpose Basic Health worker (Male)	30	19	30	26	26	23
29	HE 1 07	Psychiatric Nursing Assistants	8	5	—	—	—	—
30	B 1 01	Banking	59	45	121	89	112	104
31	B 1 02	Material Management Technology	81	43	86	62	67	51
32	B 1 03	Accountancy & Taxation	—	—	48	30	77	66
33	B 1 04	Accountancy & Auditing	49	25	81	28	148	124
34	B 1 05	Accountancy & Costing	25	11	32	23	3	—
35.	B 1 06	Primary Education	—	—	93	53	81	73
36	B 1 08	Salesmanship	—	—	18	16	15	14
37	B 1 01	Pre-School Education	96	77	199	125	103	46

**Office of the Director of Vocational Education  
Karnataka : Bangalore-1**

Statement Showing the Detailed Admission of Vocational  
Courses During the Year 1979-80, 80-81, 81-82 & 1981-82

Sr No	Vocational Course	1979-80	80-81	81-82	1981-82
1	Blkg & Reading & Engrg	14	7	20	211
2	Sewing Technology	32	62	24	25
3	Automotive Service	—	—	10	17
4	Lac Wring & Sewing of Pic Appl Shes	171	323	217	223
5	Clock & Watch Repair Technology	87	25	25	25
6	Photography	71	3	—	—
7	Painting & Commercial Arts	—	24	40	75
8	Printing & Embroidery	—	—	71	70
9	Clothing & Embroidery	—	73	180	185
10	Textile Technology	—	25	24	25
11	Sugar Technology	—	110	20	17
12	Poultry Science	10	10	25	11
13	Dairying	22	94	127	160
14	Sericulture	46	164	338	307
15	Fisheries	24	—	—	—

1	2	3	4	5	6	7
16	Co-operation	57	122	193	199	145
17	Pesticides Fertilizers & Weedicides	61	73	71	50	30
18	Plantation Crops & Management	—	—	25	22	24
19.	Agricultural Economics & Farm Management	—	—	60	63	71
20	Horticulture	—	—	11	16	66
21	High Yielding Varieties Seed Production	—	—	25	25	—
22	Laboratory Technician	47	33	43	47	67
23	X-Ray Technician	04	42	65	50	38
24	Medical Record Technician	21	25	14	25	10
25	Optician & Refractorist	4	—	14	20	24
26	Mult-purpose Basic Health Worker (male)	56	45	50	25	25
27	Psychiatric Nursing Assts.	—	16	—	—	—
28.	Banking	99	163	153	118	116
29	Material Management Techn	71	103	9	87	60
30	Accountancy & Taxation	—	80	108	132	112
31	Accountancy & Auditing	46	104	217	176	199
32	Accountancy & Computing	40	35	—	—	—
33	Primary Education	—	—	45	—	—
34	Salesmanship	—	25	18	23	11
35	Pre-School Education	—	74	70	97	217
Total		1028	2134	2818	2757	2885

## **APPENDIX - III**

### **Progress of Vocationalization of Education in**

#### **Tamil Nadu**

##### **Genesis of The New Scheme**

##### **Objectives**

The 10 : 2 : 3 pattern of education introduced in Tamil Nadu from July 1978 onwards is the natural outcome of the State Government's eagerness and sustained efforts to bring about a major change in education following Kothari Commission recommendations and NCERT guidelines to fulfil the needs and aspirations of the people, particularly the rural population and weaker sections of the society. This change-over was not a sudden decision. Careful thinking for a long time has gone into this aspect. The number of higher secondary schools functioning in this State from the year 1978-79 onwards are as follows:

1978-79	...	912
1979-80	.	1100
1980-81	.	1257
1981-82	.	1362

##### **Board of Higher Secondary Education**

A Board of Higher Secondary Education was constituted in 1976, with the Director of Education as Chairman and other important officials, non-officials and representatives of various interests connected with education, industries, universities, heads of other departments like technical educa-



tion, medical education etc., as members to advise the Directorate of Education in all matters connected with higher secondary education.

### **Steering Committee**

In order to give the necessary direction and guidance in the implementation of new scheme, a high level Steering Committee was also constituted in 1976 with the Commissioner and Secretary to Government, Education Department as Chairman and the Director of School Education as Member-Secretary. The Finance Secretary, the Director of Government Examinations, the Director of Collegiate Education, the Director of Technical Education and the Managing Director, Tamil Nadu Text Book Society are the other members of the Committee. All major steps in the implementation of the scheme are taken only in consultation at every stage with this committee which acts as a clearing house for Higher Secondary Education issues.

### **Comparing Notes With Other States**

Care was taken to study the implementation of the new pattern in the other States also before its actual implementation in Tamil Nadu with the object of avoiding pitfalls and snags and establishing the edifice of higher secondary education, on a firm foundation. The Hon'ble Minister for Education, the Director of School Education and the other planners visited the neighbouring States to make a first hand study.

### **Academic Survey**

A lot of spade work has been done to usher in the 10+2+3 pattern. For this Government of Tamil Nadu sanctioned special staff in the Directorate of School Education consisting of high level officers and the supporting staff. The departmental staff toured the districts and made a map survey of the existing facilities in schools, colleges, polytechnics, etc in accordance with the guidelines of the Steering Committee to decide the location of higher secondary schools.

### **Selection of Schools And Introduction of Vocation-Survey of Local Needs**

The main consideration that weighed with the Government in their firm decision to locate the plus two stage in schools was the need to extend the benefit of Higher Secondary Education to every nook and corner of the

State and to all sections of the society, especially to the usually neglected rural population and weaker sections. Secondly, Government were very serious about easing of student discipline. Actually there was no strike at all in the higher secondary schools after the introduction of higher secondary courses from 1978 as the students are fully absorbed in their studies, especially in getting vocational training which will ensure their employability. This again is the first serious step taken to correct urban imbalance in educational provision. The schools were selected with great care for upgrading on the basis of the recommendations of the local officers keeping in view the guidelines of the local authorities keeping in view the guidelines of the Steering Committee. Apart from the suitability of the schools, the criterion was that there should be at least one Higher Secondary School for each Panchayat Union Block in rural areas and for each Municipality in urban areas. Heads of institutions select the vocational subjects to be offered taking into account the needs of the locality, the aspirations of the parents and the suggestions of the Chief Educational Officers of the Districts. The actual combination offered in individual schools will however be subject to the two controlling factors of need and feasibility.

#### Vocational Syllabi Prepared by Experts in the field

A list of vocational subjects for higher secondary schools was prepared by a committee comprising of experts in a variety of areas under the Chairmanship of Prof. R. Jambhwal (formerly Principal, Technical Teachers' Training Institute (TITI), Adyar who is now a UNESCO expert). A list of subjects identified by the Committee with the subjects subsequently offered are given in the Annexure. The number of schools offering the vocational course, the number of vocational courses offered within the 48 types, the number of vocational subjects, are given below yearwise.

Year	No. of Higher Secondary Schools	No. offering vocational courses	No. of vocational courses offered	No. of students in vocational courses
1977-79	912	709	1153	24,400
1979-80	1064	914	1344	52,000
1980-81	1267	944	1510	57,100
1981-82	1362	1014	1602	58,520

## Curriculum Design

There is a suggestion that the student should be free to offer either general education or vocationalized courses or a mix of the two. In Tamil Nadu, there are two streams only, and there is no mix of the two. There is a genuine fear that mix of the two may not give the required amount of skill and competence in the subject to make him employable or self employed and his attainments in the general spectrum cannot also be equal to the level necessary for pursuing the higher courses of studies. While it is necessary to provide for considerable amount of flexibility for transmigration mixing of two schemes is not considered desirable.

There is also a suggestion that vocational students may study one language only so that they can have more time for studying the vocational subjects. This may require the concurrence of universities as their admission norms would require suitable modification to provide for upward mobility into the college, academic or professional, in respect of vocational students.

## Proper Selection of Courses

The vocational courses were introduced in July 1973 based on the survey made by the special staff sanctioned in the Directorate. Subsequently district vocational surveys were conducted in the year 1978 and 1979. The district surveys endorsed the recommendations earlier made and suggested some new courses.

Under the Board of Higher Secondary Education, there is a committee on vocational education under the chairmanship of the Director of Technical Education. Experts in the various vocational areas are members of the Committee. A list of vocational subjects identified by the Committee under the chairmanship of Prof. R. Jambulingam, the then Principal TTTI, Adyar and subsequently added to it, is given in Annexure-I. Of the 58 courses identified, 49 have been introduced so far. It is proposed to introduce new courses on Library Science and Business Management. Advocate's Clerks and Barista Nityam have been newly introduced. The syllabus for the Advocate's Clerks has been prepared by a retired judge of the Madras High Court. The occupations likely to emerge due to the developmental activities, plan for the future could not be ascertained with reasonable accuracy for lack of authentic information which is not

readily forthcoming from the private sector organisations. It is desirable that the Planning Commission and licensing authorities dealing with private entrepreneurs have a system of monitoring the emerging occupations and manpower needs so that the education department may be in a position to organise useful courses for meeting the future needs

#### **Review and Evaluation Committee Under Technical University Vice Chancellor**

Government of Tamil Nadu have recently commissioned a High level Committee under the chairmanship of Dr. V.C. Kulandaiswamy, Vice Chancellor, Perarignar Anna University of Technology for reviewing the vocational courses at higher secondary stage and also identifying the new two-year polytechnics. As soon as its recommendations are received, steps will be taken for strengthening polytechnics in the context of vocationalization of education

#### **District Vocational Advisory Committee Under the Chairmanship of District Collector Involving Local Industrialists**

In every revenue district, a District Committee on Vocational Education is functioning with the District Collector as chairman with the Chief Educational officer as Convenor. The concerned district officers in the Departments of Medicine, Public Health, Industries and Commerce and Employment and Training, guide the Committee as its members. This Committee offer suggestion for the schools in the district with regard to new courses to be offered. There are about 27,000 Parent Teacher associations in Tamil Nadu functioning effectively for the improvement of the schools. These associations play a vital role in selecting suitable subjects with reference to the relevance and actual needs of the area in consultation with the headmasters of schools. Previously there were 500 Parent Teacher associations. After introduction of the higher secondary course, the number of Parent Teacher Associations has increased to 27,000. This is a significant achievement of the educational activity involving public in the development of school.

#### **Proper Selection of Students**

In Tamil Nadu, vocational stream is gaining popularity as evidenced by the heavy rush for admission to the vocational courses which could be seen by the increase in strength every year. The general impression that

the vocational scheme has been designed for the under achievers and to those rejected in the general stream, has been raised by the rush for admission from among brilliant students. It is interesting to note that a student in the Government Higher Secondary School Poonamallee filed a petition in the High Court seeking directions of the Court to the headmaster for giving him a seat in the vocational course because the headmaster could not accommodate the candidate as he has already taken 30 candidates for the vocational subject where the maximum permissible is only 25. The Department had to intervene and secure him a seat in the vocational course. This is only one of many other instances to show the popularity of the vocational courses in the State. This is borne out by the fact that the percentage of the passes in Higher Secondary Public Examination of the vocational students is more than the students in the general stream. The following are the details :

---

Year of examination	Course	Percentage of pass
March/April 1980	General	59
	Vocational	60
March/April 1981	General	61
	Vocational	64

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### Providing Practical Training

As recommended by the Study Group on Vocationization under the Chairmanship of Thiru P. Subhanyagam, IAS, Union Secretary for Education, we are attaching the vocational courses with the industries, banks, farms and service establishments available within the vicinity of the schools. All leading industrialists, presidents and secretaries of Chambers of Commerce have been consulted in the matter of linking vocational education with industries and commerce. The dialogue between the authorities connected with the industries and officers the Education Department has been useful. The Hon'ble Minister for Education, Tamil Nadu addressed the authorities of all the Chambers of Commerce at Madras and a fruitful marriage between education and industry is taking place.

The Government are very particular for education of talents in the vocations in rural line stations. So far as the Government are concerned, the main are taken to the Industries. Hence Government of State are not able to have its available within the vicinity of the school for practical training. So the need for providing the infrastructure in the school for the practical training is not so urgent and it will be a recent in the development of infrastructure. However to make good state school for the school offering vocational courses are given a lump sum grant of Rs. 1000000 providing the minimum equipment necessary for the school. In the case of non-Government school, the grant is given to the school by Government grant upto a maximum of Rs. 2000000 and the school is free to use.

### **Suitable Instructional Material (Guide-Books)**

Vocational courses introduced in the school and subjects offered in Industrial Training Institutes (ITI), Polytechnics, etc. below degree level have been newly introduced. Texts of practical subjects which more or less conform to the syllabus are not easily available. Preparation of textbooks specially for the vocational courses requires a lot of time, qualified staff and heavy cost. In school, the textbooks have been brought out for the vocational subjects. Textbooks should be with clear instructions and vivid illustrations are necessary for proper teaching and learning. Guide-books had been prepared and published for vocational subjects and these guide books have been made available to all concerned. The guide books have been prepared so well that even the NCERT came forward to give a grant for the same. They are available for all India use. They are supplied to the school and the school concerned free of cost for reference of teacher.

### **Appointment of suitable teachers, In-service and In-Service Training of Teachers. Emphasis on In-Service Training.**

The bifurcated curriculum of the 10+2+3-year system were not successful because of the employment of full-time staff who were mostly concentrating on classroom teaching rather than giving them on the job training taking them outside the classroom.

So the Government have decided to appoint only part-time teachers and to draw the suitable people working in the field so that their

expertise and the facilities available in their place of employment may be used for the benefit of the vocational students. This will also reduce the pressure on providing the infrastructure in the schools for practical training. However, the staff of erstwhile bifurcated colleges who were teaching subjects akin to the vocational subjects and who were found suitable have been absorbed for teaching the vocational subjects. Part-time teachers employed are at the rate of 2 per vocational subject for each year. Government have prescribed the first degree in the subject concerned as the basic qualification without insisting on any training qualification. So far as the staff of bifurcated courses are concerned, they have a kind of pedagogic qualification. The part-time teachers do not have any training qualification. So, in-service courses for exposing them to the higher secondary syllabus is considered necessary. Only a few have been given the orientation course with the financial assistance and the expertise of the NCERT. It will be of great help if the NCERT could arrange for more summer courses for the benefit of the remaining vocational teachers. The number of teachers employed area-wise and the number who were given orientation courses are given below.

Vocational Area	Number of teachers employed full-time and part-time	No. of teachers given orientation course
Agriculture	265	92
Home Science	242	43
Engineering and Technology	690	89
Health	295	29
Fine Arts	5	—
Miscellaneous	5	—
Commerce and Business	1757	89

The TTII, Adyar has a proposal to conduct two types of long-term correspondence-cum-contact courses of one-year duration for science graduates and others among the vocational staff. It has also designed three types of short courses of four weeks' duration for the benefit of vocational

teachers, who are diploma holders, service graduates and all others. But it involves heavy financial implication to the State Government. This is also subject to approval by the Ministry of Education, Government of India. It is worthwhile considering this project, fully funded by the Government of India, for strengthening the scheme of vocationalization of education.

Every course can have two part-time teachers who are drawn from the field. The part-time teachers are paid Rs. 150 p.m. per course. If they handle two years classes they can get Rs. 300. Even though the remuneration seems to be meagre, the quantum of amount is no criterion. It is not an impediment in securing the services of experienced and suitable persons like doctors, engineers, agricultural officers and officers of the banks, who are all in active service for teaching the vocational students on part-time basis. This is like the employment of retired judges as part-time lecturers in law colleges. As a matter of fact, at Government High School, Kunnamuthur in Coimbatore District, a leading auditor of the area has come forward to give all assistance for conducting vocational course in the school and also to arrange for special lectures for the benefit of the vocational students.

### **On the Job Training**

Government have sanctioned two part-time instructors per course in respect of courses in schools where teachers of erstwhile bifurcated courses are not available. This statutory has been adopted on the following grounds :

- (i) The local resources can be fully tapped through the experienced experts drafted as part-time instructors,
- (ii) They can arrange on-the-job training and technical know-how in the respective fields,
- (iii) The students can get practical experience in addition to theorising,
- (iv) This will enable to utilise the scarce resources available in the region to attain optimum output,



On a general survey it is found the part time instruction is a fair success as we find scores of doctors, engineers, auditors and accountants and bankmen in profession come to the school and take the school to their areas of operation.

With a view to avoid delay in getting formal permission from the concerned departments from which the instructors are drafted all the heads of various departments and State undertakings have been requested to permit the qualified instructors to serve as part time instructors and to accept the remuneration therefore.

The Head of the school has been for the first time, given the powers to select and appoint the part-time instructors in consultation with the parent teacher association and vocational committees. This enables to decentralise authority and to make the headmaster accountable and responsible for the successful implementation of the programme. It also avoids delay in getting prior sanctions.

In order to help the headmaster detailed guidelines have been given in the form of criteria for selection of these part-time teachers. The suggested criteria also help to avoid drafting unqualified instructors.

### **Vertical Mobility**

The university regulations in the State have been suitably amended to provide for the vertical mobility of the vocational students. Their eligibility for admission to the degree courses in arts or science subjects is decided with reference to the optional under general stream studied by them in the vocational course. Provision has been made for the admission of vocational students of the engineering and health areas to join the professional courses at degree level in engineering and medical colleges respectively. The students of health area are also eligible for admission to the para-medical courses. Likewise the students of the agricultural area are eligible for admission to the B.Sc. agricultural courses. The students of engineering areas are eligible for admission to the second year course of the polytechnics where 10% of the seats are reserved for the vocational students.

The vocational programme aims at reducing pressure on admission at higher levels of learning. But making provision for vertical mobility

may appear to retard the achievement of this objective. But the provision for vertical mobility has been felt necessary to eliminate the class distinction of dubbing the vocational students as unfit for higher courses of studies. This kind of terminal nature may result in discouraging the parents and the students to offer for the vocational stream. This will defeat the very purpose of vocationalization.

A section of the educated elite who were swearing by the standards of general stream have changed their opinion now and the previous impression that the general stream is superior to vocational stream is gradually disappearing.

### **Examination Pattern**

Higher Secondary Examination is conducted at the end of Standard XII, covering the portions studied in Standard XII only. The public examination is conducted by the Director of Government Examinations. A separate Board of Higher Secondary examination has been constituted with Director of Government Examinations as its chairman for advising the Director of Government Examinations. The scheme of examination and the marking system are given in the Annexure II. The Scheme has undergone a change and consequently there will be only one paper for vocational students instead of 2 or 3 as at present.

Instructions have been issued to schools to conduct pre-examination before the public examination for acquainting the students with the system of public examination. At the end of the first year course, a scheme has been evolved for supply of common question papers by a committee constituted for each revenue district and evaluation is done by the individual schools.

For the higher secondary public examination, highly qualified specialists in each subject are employed as external examiners for practical portions and the results are computerised.

### **Recognition By the Government Departments**

The first batch of students took the Higher Secondary Public Examination in 1980 and the second batch took it in 1981. The heads of departments, corporations, industries etc. have been addressed for ascertaining the qualifications prescribed for the middle level skilled or semi-

skilled staff recruited by them and the possibilities of absorbing the vocational products. As soon as the particulars are received, the government and other concerned departments will be moved for amending the rules for prescribing the certificate as one of the vocational students as an alternative qualification. The Director of Employment and Training has also expressed the problem in the matter of recruiting candidates for jobs requiring skilled or semi-skilled persons below 12<sup>th</sup> level. The Banking Service Commission has already prescribed a pass in the 12 vocational examination with Banking as an optional qualification for recruitment to clerical posts.

### **Placement of Students (Wage or Self Employment)**

The first batch of students came out of the vocational course in 1980 and the next batch in 1981. A sample survey was done in North Arcot revenue district in March 1981, partly on a voluntary basis by the association of heads of higher secondary schools. It revealed that 47% of the successful students at the 1<sup>st</sup> higher secondary examination have continued their higher studies and 49% of them are currently employed and/or self employed. Of the 47% of the students continuing their higher studies, 32% have joined professional, technological and agricultural courses on merit. Only 15% have joined the Arts College for the degree courses. Similar survey in other revenue districts is being contemplated. This year instructions have been issued to all higher secondary schools to conduct local vocational survey which includes ascertaining the position of placement of students passing out of the vocational course. The result of the survey can be assessed finally as soon as the survey is completed by all the schools. The scheme of providing on the job training in the banks, industries, etc. provides a golden opportunity for the students to secure employment. For instance, the Director of Medical Education has assured to absorb students offering the subject "Dietetics, Nutrition and Food Preparation in hospital," where there is dearth of suitable hands for dietitians. The students of Mat Higher Secondary School, Combatoor offering vocational subjects in engineering etc. are taken to the industries in the neighbourhood and on the job training gained by them in the industry provides opportunity for employment in the same industries. This is a shining example for the success of the scheme of linking education to industries. A case study of the functioning of vocational courses was made. Avvai Home is the pioneer institution in the State of Tamil Nadu to introduce Gandhian principles in education. Education is made pur-

purposeful through vocationalization and practical by correlation to real life situations. Auxiliary nurses are trained here by means of active and intensive educational programmes for two years to function in the hospital or community as a member of the nursing and health team. The Nursing course under vocational stream is linked to the Auxiliary Nursing course. The vocational students are given practical training even during night shifts. Avvat Home, being residential institution has an ideal environment for the Nursing course. Many of the students have been provided hostel accommodation too. The general education blended with such vocational training strengthens the capabilities of the Auxiliary nurse providing a foundation which could enhance employment prospects and create opportunities for career advancement.

Thus the vocational programme of Nursing at Avvat Home, is reality based and life oriented in the fullest sense. It is said that 'every mother should be a nurse' and as such this gives very purposeful and preparatory education specially to girls are highly commendable indeed, as the institution has undertaken the great responsibility of training numberless 'Nightiniks' for the community.

### **Duplication and Overlap of Courses**

Care has been taken to see that the traditional courses offered in the HTIs, poly-technics and technical schools are not repeated in the higher secondary schools resulting in duplication of efforts and overlapping of courses. Except 2 or 3 courses in engineering area, all other courses identified for the higher secondary schools are different from the courses offered in the HTIs and polytechnics.

### **Vocational Monitors Under the "Earn While You Learn" Programme**

With a view to inculcate leadership qualities among the students, the renowned ancient monitorial system which was emulated by the British as the Monitor System has been revived. Under this system, one suitable student per course is designated as monitor to assist the instructors. The monitor is paid a remuneration of Rs. 20/- per mensem for 10 months in a year. The remuneration serves as an incentive and is a boon especially for the students in rural areas.

### Existing Administrative Set-up

At present there is only one Deputy Director (Vocational) in the Directorate for implementing the scheme of vocational education, and he is also a generalist belonging to the cadre of school education department. There is no technical staff at the district level for supervising the vocational courses offered in schools. It is necessary to make provision for the following officers for the strengthening the scheme of vocationalization of education and efficient implementation and proper supervision.

- 1 **State level**—One officer in the cadre of Joint Director for directing the scheme, assisted by one officer each in the cadre of Deputy Director for each occupational area.
- 2 **Revenue district level**—One officer in the cadre of Assistant Director for supervision and inspection of the functioning of vocational courses.

For each Officer, supporting staff such as superintendents, clerks, typists, steno-typists, basic servants are also necessary.

### Financial Constraints

The bifurcated courses offered under the old eleven year school pattern have not been a success because of the employment of full time staff who were mostly concentrating on class room teaching rather than taking them to the work spot for on-the-job training. They made the functional courses academic. That is why they failed.

The part time teachers are paid Rs. 150 - p.m. The erstwhile bifurcated staff draw their own scale of pay. No separate scale has been prescribed for teaching higher secondary classes. The remuneration is not the criteria. The flow of expertise is the main objective. This is reflected in the employment of doctors, engineer, agricultural officers, officers of banks for teaching vocational classes in the relevant areas. This is like the employment of working judges as part time lecturers in law colleges, on a small fee. By this arrangement top expertise gets in to the school and students are taken out to the firm, factory, or bank for real professional training.

## **The Role of the State Council of Educational Research and Training (SCERT)**

The State Council of Educational Research and Training being the State level apex body for educational research and training, at all levels of education, plays a significant role in organising orientation courses, and in-service training programmes. It co-ordinates in organizing such programmes with the NCFRT and other educational bodies. It is also co-ordinating in bringing out monographs, guide books, teachers hand books, and the research documents of the higher secondary level. Voluntary agencies like Ramakrishnan Mission Vidyalaya, Periyanaickenpalayam, and Avvai Home are dovetailed into the programmes organized for higher secondary education.

### **REQUEST**

1. NCFRT may arrange for more summer courses in all vocational areas
2. NCFRT may help to bring the scheme of vocationalization of education as a Government of India scheme under 100% aid to State Government (Centrally sponsored scheme).
3. NCFRT may arrange to get the Central Apprenticeship Act amended so that the training facility may be extended to the vocational students

Number 2 and 3 are already under consideration of Government of India, Ministry of Education

### **Strategies Adopted for the Successful Implementation of Vocational Education in Tamilnadu**

1. Location of higher secondary course in high schools
2. Identification of courses different from those offered in ITIs and polytechnics as far as possible.
3. Introduction of the subjects after an indepth survey by the special staff with the help of inspecting officers and heads of schools which

has been endorsed by district vocational surveys conducted in all districts with the aid of the Government of India

- 4 Appointment of part time staff from among the already serving persons in the various fields of specialization
- 5 Delegation of powers to the headmasters for selection of part-time teachers
- 6 Introduction of "Monitor" system for vocational classes to involve the students
- 7 Dovetailing of schools with industries, hospitals, banks, farms, etc.
- 8 Constitution of District Level Vocational Committees with the District Collector as chairman.
- 9 Involvement of parent teachers association in the developmental activities and providing facilities for giving practical training
- 10 Provision made for vertical mobility both in the general and professional courses
- 11 Preparation and supply of suitable guide books for all subjects under different areas.
- 12 Provision of massive library and laboratory grants for every higher secondary school by Government of Tamil Nadu

## **ANNEXURE**

### **List of Vocations Approved and Introduced by Govt. of Tamilnadu**

#### **1. Agricultural Vocations**

1. Dairying
2. Poultry
3. Small Farm Management
4. Agro-Based Industries
5. Farm Mechanic and Post Harvest Technology
6. Rural Construction Technology and Soil conservation.
7. Sericulture and Agriculture
8. Plant Protection (Pests, Disease and Weeds)
9. Vegetables and Fruits
10. Floriculture and Medicinal Plants.
11. Agricultural Chemicals.
12. Crop Production
13. Spices and Plantation Crops.
14. Fisheries.

#### **II. Home-Science II.**

1. Food Preservation
2. Baking and Confectionery.
3. Catering
4. Dietetics, Nutrition and Food preparation
5. Interior Decoration



6. Dress Designing and Making
7. Designing, Dyeing and Printing
8. Textile and Designs
- 9 Child Welfare and Nutrition.

### **III Commerce and Business**

1. Office Secretaryship
2. Insurance
3. Accountancy and Auditing
- 4 Banking Assistant
- 5 International Trade
6. Marketing and Salesmanship
- 7 Materials Management
8. Business Management for Small Scale Industries
9. Co-operative Management.

### **IV. Engineering and Technology**

1. Building Maintenance
- 2 Electrical Domestic Appliances—Repairs and Maintenance
3. Domestic Electronic Equipment Projection Equipment - Servicing and Maintenance.
- 4 Radio and Television—Maintenance and repairs
5. General Machinist
6. Electrical Motor Rewinding
7. Textile Technology
8. Leather Technology
- 9 Maintenance and Servicing of Textile Machinery
10. Foundry Technology
11. Knitting Technology
12. Printing and Compositing Technology.

**V. Health (Foundation Sciences)**

1. Medical Laboratory Assistant
2. E.L.G., F.C.C. Audiometry
3. Ophthalmic Technician
4. Dental Mechanic
5. Dental Hygienists
6. Radiological Assistants
7. Nursing Course
8. Hospital House Keeping

**VI Fine Arts**

1. Music
2. Bharata Natyam

**VII Miscellaneous**

1. Tourist Guide
2. Photography
3. Advocates Assistants
4. Cotton Classifier

1979-80

5. Materials Management

**Engineering & Technology**

1978-79

1. Building Maintenance
2. Electrical Domestic Appliances - Repairs & Maintenance
3. Electrical Motor Rewinding

- 4 General Machinist
- 5 Radio & Television—Repairs and Maintenance
- 6 Leather Technology
7. Textile Technology
8. Maintenance & Servicing of Textile Machinery

**1979-80**

9. Domestic Electronic Equipment & Projection Equipment-Servicing and Maintenance
- 10 Foundry Technology
- 11 Compositing & Printing Technology

**Health**

**1978-79**

- 1 Hospital House Keeping
- 2 Medical Laboratory Assistant
- 3 Nursing Course

**1979 80**

4. Dental Hygienist

**1981 82**

5. Ophthalmic Technician

**Fine Arts**

**1978-79**

- 1 Music

**1980-81**

2. Barata Natyam.

**Miscellaneous**

**1978-79**

1. Photography

**1979-80**

2. Tourist Guide
3. Advocate's Assistant

**Abstract (Vocational courses in 1978-79 -- 37 1979-80 46**  
**1980-81 - 48 1981-82 49**

**Vocational Subjects Introduced**

**Agriculture**

**1978-79**

1. Agricultural Chemicals
2. Agro-based Industries
3. Crop Production
4. Dairying
5. Fisheries
6. Floriculture & Medicinal plants
7. Farm Mechanic & Post Harvest Technology
8. Poultry
9. Plant Protection
10. Sericulture & Agriculture
11. Small Farm Management
12. Spices and Plantation Crops
13. Vegetables & Fruits.

**Home Science**

**1978-79**

1. Child Welfare & Nutrition

- 2 Dress Designing & Making
- 3 Dietetics, Nutrition & Food Preparation.
- 4 Food Preservation.

## 1979-80

- 5 Textiles & Designing
6. Designing, Dyeing & Printing

## 1980-81

7. Catering

## Commerce &amp; Business

## 1978-79

- 1 Accountancy & Auditing
- 2 Banking Assistant
3. Business Management for small Scale Industries
- 4 Co-operative Management
- 5 International Trade
- 6 Marketing & Salesmanship
7. Office Secretaryship

Sl No.	Title of the Vocational Programme	Related subject	
		Already included	Additional subject suggested.
1	2	3	4

## I. Vocational Area Agriculture

- |                           |             |         |
|---------------------------|-------------|---------|
| 1. Agricultural Chemicals | Chemistry   | Biology |
| 2. Agro-based Industries  | Mathematics | Physics |

1	2	3	4
3	Crop Production	Biology	Chemistry
4.	Dairying	Biology	Chemistry
5.	Fisheries	Biology	Chemistry
6.	Floriculture & Medicinal Plants	Biology	Chemistry
7	Farm Mechanic & Post Harvest Technology	Mathematics	Physics
8	Poultry	Biology	Chemistry
9.	Plant Protection	Biology	Chemistry
10.	Sericulture & Agriculture	Biology	Chemistry
11.	Soil Conservation & Rural Construction Technology	Mathematics	Physics
12.	Small Farm Management	Elements of Economics	Commerce Accountancy
13	Spices and Plantation Crops	Biology	Chemistry
14	Vegetables & Fruits.	Biology	Chemistry
<b>II Vocational Area , Home Science</b>			
1	Baking and Confectionery	Chemistry	Biology
2.	Catering	Chemistry	Mathematics/ Biology
3.	Child Welfare & Nutrition	Chemistry, Home Science	Psychology
4.	Designing, Dyeing & Printing	Chemistry	Physics
5.	Dress Designing & Making	Chemistry	Home Science
6	Dietetics, Nutrition & Food Preparation	Biology	Chemistry
7	Food Preparation	Chemistry	Biology
8.	Interior Decoration	Drawing & Painting	Home

1	2	3	4
9	Textiles & Designing	Drawing & painting	Home Science
<b>III Vocational Area - Commerce &amp; Business.</b>			
1.	Accountancy & Auditing	Elements of Economics	Elements of Commerce.
2	Banking Assistant	Elements of Commerce	Elements of Economics
3	Business Management for Small Scale Industries	Elements of Commerce	Element of Economics
4	Co-operative Management	Elements of Commerce	Elements of Economics
5.	Insurance	Elements of Commerce	Accountancy
6	International Trade	A foreign language (say Arab or French)	Elements of Economics (As in Part-A)
7.	Materials Management	Elements of Commerce	Elements of Mathematics
1	Marketing & Salesmanship	Elements of Commerce	Elements of Economics
9.	Office Secretaryship	Elements of Commerce.	Accountancy
<b>IV. Vocational Area - Engineering Technology</b>			
1.	Building Maintenance	Mathematics	Physics
2.	Domestic Electronic Equipment & Projection Equipment servicing & Maintenance	Physics	Mathematics

1	2	3	4
3	Electrical Domestic Appliances Repairs & Maintenance	Mathematics	Physics
4.	Electrical Motor Rewinding	Mathematics	Physics
5.	General Machinist	Mathematics	Physics
6.	Radio & Television Repair and Maintenance	Physics	Mathematics
7.	Leather Technology	Chemistry	Physics
8.	Textile Technology	Mathematics	Chemistry
9.	Maintenance & Servicing of Textile Machinery	Mathematics	Physics
10.	Foundry Technology	Mathematics	Physics
11	Compositing & Printing Technology	Chemistry	Physics
12	Knitting Technology		
<b>V. Vocational Area Health</b>			
1.	Dental Hygienist	Physics	Chemistry
2.	Dental Mechanic	Physics	Chemistry
3.	E.F.G., F.C.G. Audiometry Technician	Physics	Chemistry
4.	Hospital House Keeping	Physics	Chemistry
5	Medical Laboratory Assistant	Chemistry	Physics
6.	Nursing Course	Physics	Chemistry
7.	Ophthalmic Technician	Physics	Chemistry
8.	Radiological Assistants	Physics	Chemistry
<b>VI. Vocational Area : Fine Arts</b>			
1.	Music	Home Science	Indian Culture or any one of the advance languages under Part



1	2	3	4
2.	Bharata Natyam	History	Indian Culture or any one of the advance languages
<b>VII Vocational Area Miscellaneous</b>			
1.	Photography	Physics	Chemistry
2.	Tourist Guide	History	Indian Culture or any one of the advanced languages.
1.		Elements of Commerce	Economics
4	Cotton Classifier	Maths & Physics OR Elementry of Commerce and Accountancy and Physics OR Maths and Economics	Chemistry  Maths  Physics

## ANNEXURE

Sl. No.	Name of the Vocational courses studied in the higher secondary course.	Name of the related subject studied in H S C	Diploma Course in which admission to be made
1	2	3	4
1	* Building Maintenance	Mathematics	Civil Engineering
2.	Soil Conservation & Rural Construction Technology	Mathematics	Civil Engineering
3.	Draughtsman (Civil)	Mathematics	Civil Engineering
4	* Electrical Domestic Appliances Repairs & Maintenance	Mathematics	Elect. Engineering
5.	* Electrical Motor Winding	Mathematics	Elect. Engineering
6.	* Domestic Electronic Equipment (Project equipment Servicing & Maintenance)	Physics	Electronics
7	* Radio and Television Maintenance & repair	Physics	Electronics
8.	Farm Mechanics & Post Harvest Technology	Mathematics	Mechanical Engg.

\* Vocational Courses that are already in the list of vocational courses of higher secondary board.

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1	2	3	4
9. *	General Machinist	Mathematics	Mechanical Engg.
10	Auto Mechanic	Mathematics	Mechanical Engg
11.	Repairs & Maintenance of two wheelers	Mathematics	Mechanical Engg
12.	Tractor Repair & Maintenance	Mathematics	Mechanical Engg.
13	Diesel Mechanic	Mathematics	Mechanical Engg.
14	Horology	Mathematics	Mechanical Engg
15.	Draftsman (Mechanical)	Mathematics	Mechanical Engg
16.	Repair & Maintenance of Refrigeration & Air Condition- ing equipment	Mathematics	Mechanical Engg
17.	Sheet Metal Works	Mathematics	Mechanical Engg.
18.	Foundry	Mathematics	Mechanical Engg.
19	Welding	Mathematics	Mechanical Engg.
20.	Fitting	Mathematics	Mechanical Engg.
21.	Metal Finishing	Mathematics	Mechanical Engg

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**Higher Secondary Education . March 1980**  
**Vocational Group Results**

Group	Group Title	Nos. of candidates	
		Appeared	Passed
1	2	3	4
701	Agricultural Chemicals	219	115
702	Agro-based Industries	47	4
703	Crop Production	979	486
704	Dairying	164	69
705	Floriculture and Medicinal Plants	6	5
706	Farm Mechanics and Post Harvest Technology	29	17
707	Poultry	68	26
708	Plant Protection	360	144
709	Sericulture and Apiculture	210	60
711	Small Farm Management	502	233
712	Spices and Plantation Crops	50	40
713	Vegetables and Fruits	289	137
719	Child Care and Nutrition (Chemistry)	280	114
720	Child Care and Nutrition (Home Science)	101	62
721	Designing, Dyeing and Printing (Chemistry)	8	4

1	2	3	4
724	Dress Designing and Making (Chemistry)	321	141
725	Dress Designing and Making (Home Science)	441	256
726	Dietetics, Nutrition and Food preparation	274	152
727	Food Preservation (Chemistry-Biology)	202	82
728	Food Preservation (Chemistry-Mathematics)	8	4
731	Textile and Designs (Chemistry)	18	12
735	Accountancy and Auditing (Economic)	3265	2905
736	Banking Assistant (Commerce)	1194	900
737	Business Management Scale Industries	265	217
738	Co-operative Management	351	194
740	International Trade	19	18
742	Marketing and Salesmanship	209	126
743	Office Secretaryship Management (with Shorthand)	2061	1618
744	Office Secretaryship (with Accountancy)	3547	2509
745	Accountancy and Auditing (Commerce)	50	29
746	Banking Assistant (Accountancy)	19	3
747	Building Maintenance	26	17
748	Domestic Electronic and Projection Equipment	66	28
749	Radio and TV Maintenance & Repairs	190	134
750	Textile Technology	124	31

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1	2	3	4
<hr/>			
751	Leather Technology	39	21
752	Textile Technology	39	23
758	Hospital House-keeping	68	45
759	Medical Laboratory Assistant		
	(Physics)	26	9
760	Medical Laboratory Assistant		
	(Chemistry)	189	90
761	Nursing Course (Physics)	110	70
762	Nursing Course (Chemistry)	1245	698
770	Fisheries	27	6
773	Electrical Domestic Appliances	1717	760
774	Electrical Motor Rewinding	1537	556
775	General Machinist	3075	1637
776	Maintenance and Servicing Textile		
	Machinery	86	79
777	Electrical Motor Rewinding	16	4
784	Photography	13	6
785	Music (Home Science)	20	19
786	Music (Ethics and Indian Culture)	13	11
787	Music (Advanced Languages)	15	11

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# Higher Secondary Schools in Tamil Nadu as on 1-12-81

Year	Total	Government			Corporation			Aided			Metric	Anglo-Indians	Technical Higher Sec Schools	Total						
		B	G	T	B	G	T	B	G	T					B	G	T			
1978-79	912	379	34	413	35	16	51	295	111	406	9	7	16	16	10	26	—	734	178	912
1979-80	182	454	43	497	35	18	53	347	133	480	17	13	30	16	20	26	14	853	317	1100
1980-81	162	523	62	586	35	22	57	387	156	543	21	10	31	16	10	26	14	996	261	1257
1981-82	105	577	77	654	36	24	60	412	161	573	25	10	35	16	10	26	14	1080	282	1362

## STUDENTS STRENGTH IN VOCATIONAL COURSES IN TAMIL NADU

Vocational Subject :	1980-81	1981-82		
	Total (Boys & Girls)	Boys	Girls	Total
<b>I Agriculture</b>				
Agricultural Chemicals	137	87	—	87
Agro Based Industries	62	66	4	70
Crop Production	1833	1870	16	1886
Dairying	211	166	—	166
Poultry	82	33	—	33
Fisheries	61	83	—	83
Farm Mechanics	184	83	—	82
Plant Protection	906	275	3	978
Sericulture and Agriculture	249	140	12	152
Small Farm Management	769	412	—	412
Spices and Plantation Crops	69	69	—	69
Vegetables and Fruits	531	578	—	578
Horticulture and Medicinal Plants				
<b>II. Home Science</b>				
Catering	16	—	—	—
Child Care and Nutrition	612	10	533	543
Designing and Dyeing	44	—	—	—
Dietetics Nutrition and Food Preparation	343	22	259	281



1	2	3	4	5
Food Preservation	341	—	253	253
Textiles and Designs	—			—

### III. Commerce and Business

Accountancy and Auditing	11879	9903	3846	13749
Banking Assistant	3099	1736	1470	3206
Office Secretaryship	11990	8063	5627	13690
Co-operative Management	578	398	59	397
International Trade	28	-	12	12

	1980-81	1981-82		
	Total (Boys & Girls)	Boys	Girls	Total
Material Management	197	—	—	—
Marketing and Salesmanship	268	140	97	237
Business management for small Scale Industries	554	364	7	311
<b>IV Engineering and Technology</b>				
Building Maintenance	176	189	4	143
Domestic Electronic	327	252	-	252
Equipment Electrical Domestic				
Appliances	3585	4334	11	4345
Electrical Motor Rewinding	2991	2983	-	2983
General Machinist	7234	5770	17	5787
Radio and T.V	504	503	45	548
Textile Technology	216	208	—	208
Leather Technology	135	76	-	76
Textile Machinery	200	136	-	136
Foundary Technology	48	36	—	36
Printing Technology	22	—	9	9

## V. Health

1	2	3	4	5
Dental Hygienist	5		—	—
Hospital House Keeping	89	36	28	64
Medical Lab Assistant	410	202	181	383
Nursing	4152	71	3702	3773
Ophthalmic Technician	—	18	8	26

## VI Miscellaneous

Photography	37	19	—	19
Tourist Guide	22	28	—	28
Music	67	—	45	45
Advocate Assistant	7	19	—	19
Bharata Natyam	—	—	52	32

## ANNEXURE II

### Higher Secondary Examination-March 1980

#### Scheme of Examination--General Education

Subject		Hours	Maximum marks
Part I	Famil or other language		
	Paper I	3	100
	Paper II	3	100
			200
Part II	English		
	Paper I	3	100
	Paper II	3	100
			200
Part III	Subject 1	3	200
	Subject 2	3	200
	Subject 3	3	200
	Subject 4	3	200
			Total
			1200

Note : For subjects, where practical is compulsory, viz , Physics, Chemistry, Biology, Botany Zoology, etc. the Theory papers shall be for a maximum of 150 marks for three hours and the Practical

for three hours for 50 marks (20) for internal assessment and 30 for external assessment as detailed below.

Hours		Sessional marks	Record Book	External exam marks	Total marks
(1)	(2)	(3)	(4)	(5)	(6)
Written (one					
Paper	3	—	—	150	150
Practical	3	15	5	30	50
Total					200

## II Vocational Courses

Candidate Offering one Related Subject

Subject	Hours	Marking
Part I Tamil or other languages		
Paper I	3	100
Paper II	3	100
Part II English		Same as for
Paper I	3	100 General
Paper II	3	100 Education
Part III (A) Related subject common with General Education	3	200
Vocational Subjects		
Theory-paper I	3	100
Practical	3	100
Theory-Paper II	3	100
Practical	3	100
Theory-Paper III	3	100
Practical	3	100
Total		1200

Note : 1 For Practicals under Vocational courses, 50 marks will be assigned for internal assessment and 50 marks for external assessment

- 2 Wherever considered necessary there may be two Theory papers for a maximum of 100 marks each
- 3 Wherever considered necessary there may be one Theory paper for a maximum of 200 marks and two practicals for practical between the Internal Assessment and External Examination shall be on 50 : 150 basis. Candidates offering one related subject and also studying one more subject under Part III-Group 'A' as per the Syllabus (i.e., two subjects under Group 'A')

Subject	Hours	Maximum marks
<b>Part I</b> Tamil or other languages		
Paper I		1100) Same
Paper II	3	100) as
Paper II English		for
Paper I	3	100) General
Paper II	3	100) Education
<b>Part III (A) Related Subject I</b>	3	200)
Additional Related	3	200)
<b>Subject II</b>		
<b>Vocational subjects</b>		
Theory-Paper I	3	100
Practical	3	100
Theory Paper II	3	100
Practical	3	100
		Total 1200

Note 1 For Practicals under Vocational Courses, 50 marks will be assigned for internal assessment and 50 marks for external assessment

2 Practical Examination in Sciences and Vocational Courses will be set by external examiners taking into account the facilities available in the institutions.

3 Wherever considered necessary there may be one Theory Paper for a maximum of 200 marks. The division of marks for practical between Internal Assessment and External Examination shall be on 50 : 150 basis

A maximum of 200 marks has been suggested for each language and subject to facilitate easy computerisation of results

## APPENDIX—IV

### Report on Introduction of Vocational Courses in H S Schools of Tripura

#### Introduction

Tripura its area population and economy

Tripura a small state in the north eastern India with an area of 10,477 square kilometres and a population of 20.5 lakhs is covered mostly by picturesque hills and dense forests. There are three districts sub-divided into seventeen blocks in Tripura populated by the displaced persons from the erstwhile East-Pakistan (now-Bangladesh) and tribal people (29%). Tripura is one of most economically backward states in India. The people of Tripura are rural in character and the economy is agrarian in nature.

Present system of school education in Tripura.

School Education in Tripura is divided into two major stages which are further divided into four sub-stages as shown below :—

Table I

---

1	Elementary education
(a)	Primary (I to V)      Age group 6 to 11.5yrs
(b)	Middle (VI to VIII)      11 to 14.3yrs
2.	Secondary
(c)	Secondary (IX to X) Age group 14 to 16.2yrs.
(d)	Higher Secondary (XI to XII) 16 to 18.2yrs.

---

Two public examinations are held one at the end of Class X and the other at the end of Class XII.

Table No. 2

**Some statistics about school education in Tripura  
as on 31.3.1981**

Number of Schools students etc as on 31.3.1981 provisional.

Sl No	Types of Schools	Number of Schools	Number of teachers	Age Group	Enrolment Number	Ratio
1	Primary (I to V)	1622	4538	2,77,000 6-11 yrs	2,78,388 (I-V)	97%.
2	Sr Basic (Middle) School (I to VIII)	293	3054	1,58,200 11-14 yrs	64,380 VI- VII)	
3	High School (VI to X)	135 (11)	2430	98,500 14-16 yrs	27,081 (IX-X)	
4	Higher Secondary School (VI to XII)	60	2354	92,200 16-18 yrs	10,415 (XI-XII)	

**Taking preparations for Introduction of Vocational Courses at the Higher Secondary Stage -**

In pursuance of the national policy of Education based on the recommendation of the India Education Commission 1964-66, the new pattern of Education 10+2 stage has been introduced in the state of Tripura for secondary and Higher Secondary stages w.e.f 1974 and 1976 respectively.

The Scheme of studies at the Higher Secondary Stage has been envisaged for 2 streams namely (a) general stream and (b) vocational stream. Vocational stream courses have been conceived to be vocation oriented mostly as a terminal study for larger number of pupils with the idea that after successful completion of the vocational courses, pupil can choose to enter into vocation to earn their livelihood either through employment or self-employment opportunities. So far Tripura has introduced



only general stream courses in different Higher Secondary Schools as shown below.

**Table No. 3**

**Number of High, Higher Secondary Schools showing courses  
taught as on 8.9.1980**

Sl No	District	Number of H S *** Schools			Courses taught		
		Govt	Non Govt	Total	Arts	Comm- erce	Science
1.	West Tripura	27	12	39*	38	20	16
2.	North Tripura	13	4	17	17	4	7
3.	South Tripura	13	3	16	16	7	7
		53	19	72	71	31	30

During 1981, 6425 students appeared at the Higher Secondary Examination out of whom 3880 students passed. Most of these students passing Higher Secondary Examination every year go to pursue higher studies in the degree colleges as shown below

\* Including Central School.

Table No 4

**Degree Colleges districtwise with number of students studying  
different courses as on March, 1980**

District	Number of degree colleges	Coursewise Number of students			Remarks
		Arts	Commerce	Science	
West District	1	1094	492	401	
North District	2	387	Nil	28	
South District	2	300	Nil	Nil	
		2381	492	429	

After completion of degree courses most of the young people with degree in arts commerce subjects will increase the number of unemployed educated persons. The enormity of the problem of educated unemployed persons may be guessed from the table below.

Table No 5

**Number of registered unemployed persons and persons  
placed annually**

Sl No	Categories of persons	Number of persons					
		1979		1980		upto July, 81	
		Unem- ployed	Placed in emp- loyment	Unem- ployed	Placed in emp- loyment	Unem- ployed	Placed in emp- loyment
1.	Below Madhyamik (Matriculation)	36000	4500	42582	2200	45600	1230
2	Madhyamik passed and above	24000	6300	28000	2900	30500	2100
		60000	10,000	70,582	5100	76,100	3330

Small state of Tripura with poor resources faces the most difficult problem of unemployment which is becoming acuter year to year on account of the present system of school education offering no scope of pursuing vocational courses to the young learners. In the year 1981 out of 12536 who appeared at the Madhyamik Examination 6,826 students passed. Most of the students rushed to seek admission into the general stream courses taught by the H. S. School as there is little scope of admission into vocational courses in Tripura. At present there is only 1 Polytechnic Institute for teaching three diploma courses Civil, Mechanical and Electrical. The seats in this polytechnic Institute are very limited and only 100 students could be admitted this year out of 600 who sought admission. In the only Industrial Training Institute of Tripura there are arrangements for offering 2 years courses in the following courses with the annual intake capacity of 122.

Course	Intake capacity	Duration of course	Minimum Qualification
1 Draftsmanship	16	2 years	H.S. passed with Science
2 Electrician	32	- do -	- do -
3 Surveyor	16	- do -	- do -
4 Radio and television repairs	16	- do -	- do -
5 Shorthand	32	- do -	Madhyamic Passed

These courses are very popular. In 1981 two thousand students applied for admission out of 2000 students only 132 could be admitted. On the basis of the above it may be said that in some selected Higher Secondary Schools of West Tripura where banking services, industrial concerns, offices private enterprises etc. are gradually developing following courses may be introduced to give scope to students for pursuing 2 yrs vocational courses having good employment potentiality as well as scope of self employment (1) Type-writing (2) Shorthand (3) Draftsmanship (4) Survey (5) Electrical technician (6) Electronics. Naturally for want of scope the students rush to H.S. Schools teaching only general stream course knowing fully well that completion of Higher Secondary Courses in the general stream would be of little help to them so far as earning of livelihood by securing employment or by self employment is concerned. Individual pupils as well as guardians are miserably helpless in so far as the re-building of the educational system of the country with a view to enhancing the employment potentialities of the youth through need based education of the younger generation is concerned.

The state of Tripura has accepted the national policy of introducing vocational courses at the H.S. stage. With a view to drawing up a well thought plan to introduce the most useful vocational courses in the selected H.S. Schools of Tripura a vocational survey in the West District of Tripura was conducted in the year 1978. West Tripura is the biggest

(I) Health

- (i) Health visitors training
- (ii) Pharmacy
- (iii) Nursing Mid-wifery etc.

As it had been explained earlier, student enrolment in each course should be decided only after ascertaining the exact manpower requirement in different sectors in the sixth five year plan period

The report of the preliminary survey conducted in 1978 is under examination of the government which is yet to decide the number and type of vocational courses to be introduced during the sixth five year plan in some selected H S Schools situated in the rural and urban areas

**Live stock**

So far as the live stock position of the district is concerned total number of male animals, draught animals, poultry birds—peto are shown in the following tables.

**Table No 8****Live Stock (1972, 1977)**

<b>Livestock</b>	<b>1972</b>	<b>1977</b>	<b>No Change</b>
<hr/>			
<b>1. Milch Animals</b>			
(a) Cows	1,70,880	1,74,956	4,079
(b) Buffaloes	7,721	14,319	6,598
<hr/>			
Total	1 78 601	1 89,275	10,674
<hr/>			
<b>2. Draught Animals</b>			
(a) Cows	—	—	—
(b) Bull / Buffaloes	2,38,337	2,38,337	—
(c) Buffaloes	—	7,451	7,451
<hr/>			
Total	2,38,337	2 45,788	7,451
<hr/>			
3. Sheep	1,354	2,894	1,540
4. Goats	1,47,058	1 98,6 4	51,576
5. Pigs	44,0054	44,967	909
6. Poultry Birds	5 17 664	5,21,244	3,580
<hr/>			

## Fisheries

Fisheries can be developed in the State which will result in economic growth and prosperity of people and will to a great extent solve the problem of unemployment.

On the basis of the findings of the survey, it may be stated that agricultural and allied subjects will be the suitable vocational courses at 12 stage. But it is very difficult to ascertain the number of persons who may get self employment opportunities after coming out from such vocational schools. Because, self employment is subject to many factors, mainly finance.

Above all vocational opportunities will have to be created by radical reorganisation of the entire planning machinery to utilize the available resources to the maximum possible extent. The government may adopt the following measure to create vocational opportunities during the sixth five year plan period :

- (a) Land reclamation and utilization by introducing power tiller and other scientific farm machineries.
- (b) By introducing scientific irrigation method.
- (c) Starting agro based industries, mainly fruit canning centre in rural areas.
- (d) Opening seed treating and mixing centre.
- (e) Providing improved quality of seeds and fertilisers, insecticides and weedicides at subsidised rate.
- (f) Simplification of granting loans.
- (g) Installing storage houses in rural areas.
- (h) Arranging quality milch animals in rural areas for running dairies.
- (i) Arranging to supply quality poultry birds.
- (j) Arranging hatching of eggs free of cost in rural areas.
- (k) Supplying quality pigs for pigery.
- (l) Supplying fodder and poultry feed at subsidised rate.
- (m) Free vaccination and treatment of livestock.
- (n) Locating markets for the sale of the production.
- (o) Improving transport facilities.

## APPENDIX V

एन० सी० ई० आर० टी० के पत्र के प्रस्तर-4 में उल्लिखित रिपोर्ट बाराणसी, आगरा, बरेली तथा उन्नाव जनपदों में कृत कार्यवाही एवं प्रस्तावित कार्यवाही अधालिखित है।

प्रस्तर 4 (अ) योजना के कार्यान्वयन के लिए अज्ञात व्यवस्था

शामनादेश दिनांक 11-11-1980 द्वारा चार जनपदों में निम्न अधिकारी/कर्मचारी नियुक्त करने की व्यवस्था की गई है ---

1. जिला व्यावसायिक शिक्षा अधिकारी स्वीकृत पद	4
2. सार्वजनिक सहायक	4
3. टकक लिपिक	4
4. भर्देली चपरासी	4

योग :— 16

(ब) आय-व्यय में वर्तमान समय में केवल स्वीकृत पदों के संचालन हेतु धन का प्राविधान कर दिया गया है। इस वर्ष की आवश्यकतानुसार प्रासंगिक व्यय का भी प्राविधान किया गया है।

(ग) वर्तमान समय में जनपदों में सर्वेक्षण का कार्य हो रहा है। सर्वेक्षण कार्य समाप्त होने पर कार्य सम्पादन का पूर्ण विवरण दिया जाना सम्भव होगा।

(द) (1) जिला व्यावसायिक शिक्षा अधिकारियों का आवश्यक प्रशिक्षण एन०सी०ई०आर०टी० के तत्वाधान में दिया जा चुका है। अन्य अधिकारियों का प्रशिक्षण सर्वेक्षण के उपरान्त योजना की स्वीकृति के अनन्तर किया जायेगा।

(2) योजना में अभी उक्त खण्ड के स्टाफ ही है। वे जिसे के उद्योग



district in Tripura, inhabited by 7,51,605 people as per 1971 census. As 1971 census, the density and distribution of population of Tripura and the West Tripura District have been showing below

**Table No. 6**  
**Density of population and distribution of population by**  
**sex and rural urban area in the West District**

Density of Population	Rural		Urban		Total	
	Male	Female	Male	Female	Male	Female
226.1	3,29,723	3,12,280	56,571	53,031	3,86,294	3,65,311
Percentage to total of Distt	43.87	41.55	7.53	7.05	51.3	48.7
Grand Total					7,51,605	
Percentage to total of Distt					100	

Economic classification of the working population of the district as per 1971 Census is given in that table No. 7 (Annexure-A). Analysis of the table would reflect the agrarian nature of economy of the district and also of its industrial backwardness. The agrarian nature of economy of the district has resulted in a greater emphasis on increasing products of rice with wheat, pulses, jute etc. Agriculture is being commercialised with the introduction of high yielding variety programme.

### Forest Resources

First appears to be the second principal natural resources. West Tripura District gives about one third of the total forest product of the state. Major various products are timbered wood, round wood, fire wood rubber, bamboo thatch etc.

Table No. 7

Economic classification of working population (1971)										Annexure-A*	
Industrial Activity	Rural	Urban	Sector	Rural	Urban	Suburban	Urban	Total	Grand Total	Percentage of total No of workers	
I	2	3	4	5	6	7	8	9	10	11	
I Cultivators	50,506	413	50,919	22	10,276	—	97,197	636	98,313	48.9	
II. Agricultural Labourers	20,807	548	21,355	21	3,608	—	26,755	560	37,224	18.6	
III Live stock, Forestry, Fishing, Hunting, Plantation etc	2,178	142	2,320	14	554	—	3,145	156	3,301	1.6	
IV Mining	—	—	—	—	—	—	—	—	—	—	
V Manufacturing, Processing, Repairing etc	4,517	2,599	7,116	204	861	—	6,384	2,803	9,187	4.6	
VI. Construction	817	791	1,608	26	.6	—	988	817	1,805	0.9	

	1	2	3	4	5	6	7	8	9	10	11
<hr/>											
VII. Trade & Commerce		5,978	5,250	2,069	727	928	—	8,985	5,977	14,962	74
<hr/>											
VIII. Transport, storage & Communication		1,587	1,817	364	81	212	—	2,163	1,898	4,061	20
<hr/>											
IX. Other services (in EC)		12,458	12,826	7,765	1,080	1,844	—	18,067	13,876	31,940	160
<hr/>											
Total No of workers (I-IX)		98,938	24,38	48,527	2,346	26,670	—	1,74,164	26,732	2,00,896	1000
<hr/>											
Total No of non-workers		2,73,527	75,578	1,20,114	6,692	74,198	—	4,67,839	82,870	5,50,709	—
<hr/>											
Total population		3,72,465	1,10,26	1,78,661	9,338	1,00,877	—	6,42,003	1,60,602	7,51,605	—
<hr/>											
Percentage of workers to total Population		26.6	24.3	28.8	25.1	26.4	—	27.2	24.4	26.7	—
<hr/>											
N.B. Categories of workers (in chandler student etc.) of the different are not available											
<hr/>											

Source: Population census 1971

- (p) Extensive plantation of rubber and starting rubber processing centres
- (q) Expanding sericulture and silk industry
- (r) Opening primary health centre and pharmacies in remote rural areas.
- (s) Scientific inland fisheries

If the aforesaid requirements are fulfilled following vocational courses may be introduced in the sixth five year plan period in a few rural Higher Secondary Schools.

- (a) Agriculture
  - (i) Soil conservation
  - (ii) Operation, maintenance and repair of farm machineries
  - (iii) Plant protection
  - (iv) Storage
  - (v) Seed treating and mixing
  - (vi) Fruit and vegetable preservation
- (b) Animal Husbandary and Dairying :
  - (i) Farm breeding
  - (ii) Fodder cultivation
  - (iii) Dairy technology
- (c) Industry :
  - (i) Sericulture—Mulberry cultivation, silk reeling and weaving
- (d) Fishery :
  - (i) Water Conservation
  - (ii) Spear breeding
- (e) Forestry :
  - (i) Water Conservation
  - (ii) Rubber processing
  - (iii) Timber seasoning

Books, Furniture etc. since the introduction of the course. Majority of the students who passed out, could not come employment. A number of them joined the 'bridge' course' which has destined to enable them to return to the general stream. Thus, there has been a confusion of the programme and the very purpose for which the vocational courses were introduced, has been defeated.

### Problems And Difficulties

The vocational education is gradually losing its popularity. This is due to the fact that the students are facing problems and difficulties while reading Vocational Courses. In this regard, the report of the National Council of Educational Research and Training team which made an on-the-spot critical study in 1979, of the Higher Secondary vocational programme in West Bengal, is an important and useful document. Some of the problems and difficulties encountered in implementing the scheme can be cited as follows :

(1) The Vocational Course has been designed in such a way that students might get opportunity to switch over to the general stream through 'bridge course' system. In providing this opportunity, only 30% of the instructional time has been allotted for practical training in a vocation which is definitely inadequate to equip the students with skill and competent.

(2) The quality of instructional staff in most of the schools has also been poor. Though in the present staff pattern, full-time teachers have been recommended to teach vocational subjects sufficiently qualified teachers are generally not available. Further, no arrangement has been made for training of vocational instructors.

(3) Though the West Bengal Higher Secondary Council made some manpower survey while selecting and introducing the vocational courses, such district-wise occupational survey could not be done in detail as the course was introduced in a hurry.

(4) Suitable job opportunity could be created and the students do not get any incentive from any quarter. Though in recent years some

6—अनुसूची 1—जनपदों के 176 जैदिक नगरपालिका (उपग्राम क्षेत्र, हाई स्कूल, पालाटिनलनकम आदिकारीक प्रजिअम मन्थार, नगरिक विद्यालय एवं शासकीय विद्यालयों) का जैदिक जिनमे 81 की सूचना प्राप्त हो पाई है।

नोट :—उक्त के मन्थारमे जो सूचनाये प्राप्त भी हुई है वह अपूर्ण एवं अशुद्ध है।

### कार्य मे प्रगति की दिशा

यह कि जनपदीय व्यावसायिक सर्वदल का कार्य उतना वृद्ध है कि जनपद के हर इकाई (राजकीय/अराजकीय) कार्यालय एवं मन्थारा मे सम्पर्क स्थापित करने, गाईड करने एवं सूचना सफाई करने के लिए जीप की व्यवस्था एवं पैट्रोल, टिकण मशीन, साइकिल आदि की व्यवस्था न होने मे प्रगति मे अवरोध उत्पन्न होता है।

उक्त के अभाव मे जनपद के एक या दो मे सम्पर्क स्थापित ही कर पाते है इसमे कार्य मे प्रगति नहीं लाई जा सकतो हे यदि जीप गाडी के लिए पैट्रोल आदि की व्यवस्था हो जाय तो कार्य सुगमता से हो पायेगा।

2-जनपदो मे स्थानीय सर्व पार्टी बनाने पर विचार किया जाय जो सूचना सफाई करे साथ ही योजना के कार्यान्वयन के लिए मन्थारा विभाग की समय मासिकी एवं विद्यालय की हपरेखा निर्धारन करे।

## APPENDIX VI

### PROGRESS OF VOCATIONAL EDUCATION AT IHL PLUS TWO STAGE IN WEST BENGAL

The Seminar on vocationalization of education which has been arranged by National Council of Educational Research and Training will discuss the following matters, as mentioned in the Background paper VEU/NS/81/III.

- a) to share experiences of the implementation of the vocationalization of education programme particularly with a view to identify the problems that have been encountered
- b) to develop guidelines and a plan of operation for the implementation of the programme, and
- c) to consider ways and means of the training of teachers for vocational courses

In West Bengal, the State Government has recently decided to confer the responsibility with the Director of Technical Education, West Bengal, to review the progress of the vocationalization scheme in the state, to ascertain the problems and difficulties encountered in implementing the scheme and to chalk out some future plans so that the vocational courses might be more attractive and will draw large number of qualified students, thereby releasing the pressure on higher education. Based on the investigations submitted by the Director of Technical Education, West Bengal, and the information collected from the West Bengal Council for Higher Secondary Education, detail report has been prepared regarding vocationalization of higher secondary education. The

in selected areas chosen after man-power survey. It is felt that graduates with special training in such courses will be more employable.

### Conclusion

An attempt has been made above to bring out the importance, need and prospect of vocational education and the difficulties faced during implementation of vocationalization scheme. Some suggestions have also been submitted regarding organisation of vocational educational programme. It is felt that vocational courses can be organised properly if vocationally trained persons get employment and if there are opportunities for further training and promotions, the attitude of the guardians and students towards vocational education will definitely change. A time may come when it will be possible to channelise 50% of the students into vocational stream in their +2 Higher Secondary stage. Vocationalization of Education is considered to be the only remedy for the ill effects of the existing pattern of education.



अधिकारी, विकास खण्ड अधिकारी जिला कृषि अधिकारी, प्राचार्य, हाई स्कूल, इंटर कालेज दीक्षा विद्यालय एवं आई०टी० आई० एवं जनपदीय विभागाध्यक्ष सामान्य प्रबन्धक उद्योग, कृषि मरदान तथा लघु एवं बड़े उद्योग आदि में व्यवहितगत सम्पर्क कर निर्धारित प्रपत्रों की पूर्ति में व्यस्त है।

(ख) सर्वेक्षण समाप्त होने पर ही प्रस्तावित विषय का सम्या तथा पाठ्यक्रम नियमित करना सम्भव होगा।

जनपदीय सर्वेक्षण के कार्यों का सम्पादन  
एवं प्रगति आख्या का विवरण —

(बारागसी, आगरा, बरेली तथा उत्ताव)

उत्तर प्रदेश में माध्यमिक शिक्षा के व्यावसायीकरण के संदर्भ में जनपदीय सर्वेक्षण हेतु राष्ट्रीय शैक्षिक अनुसंधान एवं प्रामाण्य परिपक्व रीति रीतियों द्वारा तैयार किये गये प्रपत्रों पर जनपदीय सर्वेक्षण का कार्य नि प्रगति प्रतीतिवित है —

- 1 - अनुसूची :—1 — कृषि के अतिरिक्त 117 औद्योगिक प्राविष्ठानों के उद्योगों के नियोजकों प्रबन्धकों की सूचना भर कर देने हेतु भेजे गये जिनमें से अब तक 12 स्थानों की सूचना प्राप्त हो पाई है।
- 2—अनुसूची :—2 :—उन प्रबन्धक/नियोजकों को जो व्यावसाय प्रारम्भ करना चाहते हैं ऐसे 19 प्राविष्ठानों को जिला उद्योग अधिकारियों को परामर्श हेतु भेजे गए, मात्र 2 नियोजकों की सूचना प्राप्त हो पाई है।
- 3—अनुसूची :—3 :—जनपदों के 69 सुविज्ञ व्यक्तियों को भेजी गई जो 10-12 पर व्यावसायिक शिक्षा प्रारम्भ करने में प्रस्ता समुचित परामर्श दे सकते हैं मात्र 4 व्यक्तियों के परामर्श प्राप्त हुए हैं।
- 4—अनुसूची :—4 :—जनपदों के 98 विभागाध्यक्षों का भेजे गए जिनमें से 15 विभागाध्यक्षों की सूचना प्राप्त हुए हैं।
- 5—अनुसूची :—5 :—जनपदों के 71 विकास खण्डों के अधिकारियों को भेजे गये अभी 26 विकास खण्ड अधिकारियों की सूचना प्राप्त हुई है।

arrangements have been made for the vertical mobility of the successful students, but the change is very little. There is no follow up courses for further intensive study to specialise in a particular vocative line and no binding from any authority for appointment of successful candidates in firms or companies both public and private.

(5) Another factor probably seems to be our half-hearted attitude to vocational education. It is sometimes said that vocational education is inferior to general education and is meant for students of poor merit and drop-outs. A graduate, even being unemployed, enjoys a better social status as compared to a vocationally trained person as the former has better mobility and hence chance of employment and promotion.

### **Some Suggestions for Future Plan**

Careful planning and preparation is required to organise the vocational education programme successfully. The following suggestions have been made by the Director of Technical Education in his report for the successful implementation of the scheme of vocationalization of education.

(1) Establishment of a separate Directorate and a Council for Vocational Education. The New Directorate may have to attend to matters relating to (a) Establishment, Budget & Accounts, (b) Inspection, Planning and Development and (c) Training and placement of students. For examination matters there should be a separate Statutory Board. There should also be a "State Council for Vocational Education", whose main function will be to establish co-ordination between Government Departments, public undertakings and private organisations for successful implementation of vocational programmes including training and placement of students.

### **(2) Manpower Assessment**

The essential pre-requisite for planning of vocational course is the detailed assessment of the requirement of vocational personnel in different occupations and also determinations of nature and level of training required for different vocations.

### **(3) Organisation of Vocational High Schools**

Instead of implementing vocational courses in general schools, a few separate schools are to be opened for this level vocational courses. These schools should be of a small size, which will train out student with good skill and competence.

### **(4) Design of Vocational Courses**

On the basis of vocational manpower survey, vocational courses should be organised only in a few vocations where job potentiality is high. The courses should be designed in such a manner that the students may attain the appropriate skill and competence for a vocation, which will enable them either to secure employment or to open a business. There should also be opportunities for advance level training in respective vocations to ensure vertical mobility.

### **(5) Arrangement of Training of Vocational Teachers**

Vocational teachers require special training and development of necessary skill and motivation for a particular vocation in Vocational Courses. For this purpose, it is essential to establish Teachers Training Institutes.

### **(6) Training and Placement of Vocational Students**

For success of vocational education programme it is essential to make arrangement for training and placement of vocational students after completion of the course. In order to ensure employment of vocational students, it is necessary that various employer concerns are persuaded to incorporate appropriate provisions in recruitment rules so that the vocational students get preference.

### **(7) Involvement of Employing Agencies**

Involvement and participation of employing agencies in the vocational education programme is very important. They should be involved in all stages in identifying the courses, in designing, in planning and running of the schools and finally in training and placement of vocational students.

### **(8) Organisation of Vocational Courses at Degree Level**

Some vocation-orientated courses should be introduced at degree-level

report is enclosed herewith for the perusal of the Vocationalization of Education Unit of the National Council of Educational Research and Training

## **Report of the Vocationalization of Education Programme in West Bengal**

### **Introduction**

In line with the recommendation of the Kothari Commission (1964-66), the scheme of studies at the 2 year Higher Secondary stage in West Bengal has been envisaged for two streams viz. (1) general or academic stream—preparing students for higher education, (2) vocational-oriented mostly as a terminal study for a large number of pupils with the idea that after successful completion of the course, they can enter a vocation of their choice to earn their livelihood either through employment or through self-employment opportunities. This diversification is essential otherwise there will be a danger of producing a large number of unemployed graduates in the academic courses.

### **Progress And The Present Position**

Some recent data showing the number of institutions introducing vocational courses year-wise and urban/rural distribution, number of courses introduced, number of students appeared in the final examination course and year-wise with boys/girl distribution and number of students passed have been given in the Annexure.

From the statements shown in the Annexure it can be seen that during 1966-77 the West Bengal Council for Higher Secondary Education, after conducting a preliminary manpower survey, introduced vocational courses at the plus two stage in 99 schools, distributed uniformly in urban and rural areas. Vocational Courses were started with five areas of study namely, Agriculture, Technical, Trade and Commerce, Industry (Textile) and Para-Medical. With time, however, several institutions have been closed due to lack of minimum enrolment and lack of enthusiasm among the students. At present only 52 institutions exist with total regular enrolment of 1812 students. The picture is definitely not encouraging, though Government grants were sanctioned to these institutions for the purchase of Scientific equipment,

## ANNEXURE

### West Bengal Council of Higher Secondary Education Vocationalization of Education Programme

Number of institutions introducing Vocational Courses year-wise  
of Urban Rural distribution

Year	Agri		Industry		Technical		Para-Medical		Trade & Com		Total	
	U	R	U	R	U	R	U	R	U	R	U	R
1976	9	15	3	2	8	23	4	5	16	8	40	53
1977	—	1	—	1	—	1	1	—	1	1	2	4
											47	57-99
1978	No introduction of Vocational Courses after 1977											

### Position after drop-out upto 1981

	Agri		Industry		Technical		Para-Medical		Trade & Com		Total	G Total
	U	R	U	R	U	R	U	R	U	R	U	R
1978	9	14	—	3	3	22	—	4	17	7	29	50=79
1979	9	14	—	2	2	21	—	3	12	7	23	47=70
1980	9	14	—	—	1	21	—	1	4	7	14	43 57
1981	9	14	—	—	1	21	—	—	—	7	10	42 52

**Higher Secondary Examination, 1976 in  
Vocational Stream Courses**

Area	Male		Female	
	Enrolled	Passed	Enrolled	Passed
Tech.	703	310	—	—
Agri	579	461	16	13
T & C	310	219	40	32
P Med	135	126	23	21
Ind	20	9	7	1

**Higher Secondary Examination, 1979 in  
Vocational Stream Courses**

Area	Enrolled	Passed	Enrolled	Passed
Tech. : Regular	745	192	1	—
Continuing	36	13	—	—
Casual	132	20	—	—
Special	45	22	—	—
Agri : Regular	883	591	8	3
Continuing	8	3	—	—
Casual	19	5	—	—
Special	49	40	—	—
T&C. : Regular	129	93	27	26
Continuing	22	17	1	—
Casual	20	14	—	—
Special	16	13	5	4

### High Secondary Education 1980 in Vocational Stream Courses

Area	Male		Female	
	Enrolled	Passed	Enrolled	Passed
<hr/>				
Regular	542	155	1	—
Continuing	240	56	1	—
Special	254	143	—	—
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Agri Regular	784	411	4	2
Continuing	132	35	—	—
Special	65	47	—	—
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T&C Regular	56	38	34	32
Continuing	4	2	—	—
Special	31	15	2	—
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P Med : Regular	36	12	—	—
Continuing	36	3	3	2
Special	13	12	1	1
<hr/>				
1981				
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Tech Regular	580	177	—	—
Continuing	214	45	1	—
Special	212	120	1	—
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Agri : Regular	930	546	7	4
Continuing	197	77	—	—
Special	144	104	2	2
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T&C.	Regular	192	147	40	35
	Continuing	1	—	—	—
	Special	25	19	1	1
P. Med	Regular	63	27	—	—
	Continuing	32	17	—	—
	Special	20	17	1	1
Ind	Regular	—	—	—	—
	Continuing	14	5	—	—
	Special	5	3	—	—
P Med :	Regular	127	65	8	4
	Continuing	—	—	1	—
	Casual	—	—	—	—
	Special	7	6	—	—
Ind :	Regular	28	2	—	—
	Continuing	5	—	2	—
	Casual	—	—	—	—
	Special	3	—	—	—



